SECTION 5, PART B						Tier i Page 5-7
OPERATING DA PERCENT FUEL CONSUMPTION PER		OPERATING SCH	JEDI II E			_
DEC-FEB 10	QOARTER	HOURS/DAY				
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20		WEERO/TEAR				
POLLUTION COI	NTROL EQUIPME	NT				
PARAMETER TYPE	PRIMARY None		SE No	CONDARY one		
TYPE CODE (FROM APP. A)					]	
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)					]	
WET SCRUBBER FLOW (GPM)					]	
BAGHOUSE AIR/CLOTH RATIO (FPM)					]	
VENTILATION A	ND BUILDING/ARE	A DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	rion (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.2136	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	ATE (KM)		4787.3407	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	16.00	STACK EXIT HEIG	HT FROM GROUND LE	VEL (FT)	17	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	14.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		280	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	AL (LBS/HR)	LOWABLE EMISSK (TONS/YR)	ONS REFERENCE
PM						
PM-10						
SO2						
со						
NOX						
VOC	TANKS 4.0		1.68E-02			l
LEAD						
Benzene 71-43-2	TANKS 4.0		3.40E-04			
			0.402-04			
······································		L	l	<b></b>	L	<b></b>

DEQ USE ONLY							
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID CO	ODE	
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCO		_
PART A: GENERAL II	NFORMATION						_
PROCESS CODE OR DESCI	RIPTION	Tank 23 - Asphalt Cutba	ick	·			
STACK DESCRIPTION		Tank 23 - Vent					
BUILDING DESCRIPTION		Tank 23					
DATE INSTALLED	1992	DATE LAST MODIFIED					
GENER	RAL TANK AND N	IATERIAL HANDLIN	IG DATA				
MATERIAL DESCRIPTION	Asphalt Cutback		]				
TANK CAPACITY (GALLONS *Note: Average annual throu TANK TYPE	·	ANNUAL THROUGHPU oduct storage group. Act		244,558 t may be hip		tanks in the storage group.	
PLEASE CHOOSE FROM BE (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SP/ (04) PRESSURE TANK (05) UNDERGROUND - SP/ (06) OTHER	INTERNAL COVER) ACE		PLEASE CHO (01) PIPELIN (02) RAIL C/ (03) TANK 1 (04) SHIP B/ (05) OTHER	IE AR RUCK ARGE	BELOW	s, to tank by pipe	(
		HASE DEGREASING	DATA			-	_
MANUFACTURER OF DEGR	EASING AGENT	Not a Degreasing Agent			TANK SURFACE A	REA (SQ. FT) NA	]
TEMPERATURE OF DEGREA	ASING AGENT IN TANI	K (DEG. F)	NA .		METHOD OF VAPO Please choose from (01) Inclneration (02) Refrigerated (03) Refrigerated (04) Carbon Adso (05) Vapor Return (06) No Recovery (07) Other	n below: Liquid Scrubber Condenser rrption I System	]
ADDITIO	ONAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER (	OF IN-LINE	NUMBER OF SAFETY RELIEF VALVES 1	]
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SAMPLING CONNECTIONS	]
MATER	IAL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene				71-43-2		0.00168%	ĺ
							1
						5 - VOCs (Tank 23)	

						Page 5-72
OPERATING DAT		ORED LEWIS COLL				
PERCENT FUEL CONSUMPTION PER C	IUARTER	OPERATING SCH				
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLLUTION CON	ITROL EQUIPMEN	Т				
PARAMETER TYPE	PRIMARY None		SEC Non	ONDARY e		
TYPE CODE (FROM APP. A)					]	
MANUFACTURER						
MODEL NUMBER						,
PRESSURE DROP (IN. OF WATER)			<u> </u>		]	
WET SCRUBBER FLOW (GPM)					1	
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ID BUILDING/ARE	A DATA S'	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVAT	ION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINA	ATE (KM)		386.2118	
MINIMUM FLOW (ACFM)		UTM Y COORDINA	TE (KM)		4787.3351	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	NOTE BELOW)		03	
BUILDING HEIGHT (FT)	16.00	STACK EXIT HEIG	HT FROM GROUND LEV	EL (FT)	17	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	ETER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	14.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEMP	PERATURE (DEG. F)		280	
AID DOL! HTANT	FHICOLONG					
AIR POLLUTANT		DEDOENT	507W4750.00	•		
POLLUTANT CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	LOWABLE EMISSION (TONS/YR)	REFERENCE
РМ					· · ·	
PM-10						
SO2						
co						
NOX						
voc	TANKS 4.0		1.68E-02			
LEAD						
Benzene 71-43-2	TANKS 4.0		3.40E-04			
1.7.10 &	174630-170		0.402.04			
				<u> </u>		
				<u> </u>		

DEQ USE ONLY								(
DEQ PLANT ID CODE		DEQ PROCESS CODE			DEQ STACK ID CO SECONDARY SCC	DE		•
PART A: GENERAL	. INFORMATION			•				Ī
PROCESS CODE OR DES	SCRIPTION	Tank 26 - Asphalt Cutba	ack or Additive					
STACK DESCRIPTION		Tank 26 - Pressure Rel	lief Valve					
BUILDING DESCRIPTION		Tank 26						
DATE INSTALLED	1992	DATE LAST MODIFIED		]				
GEN	ERAL TANK AND I	MATERIAL HANDLIN	NG DATA					
MATERIAL DESCRIPTION	Asphalt Cutback or	Additive						
TANK TYPE	roughput per tank for p	ANNUAL THROUGHPU roduct storage group. Ac	. ,	1,264,862 t may be h		anks in the storage	group.	
PLEASE CHOOSE FROM I (01) FIXED ROOF (02) FLOATING ROOF (C (03) VARIABLE VAPOR S (04) PRESSURE TANK (05) UNDERGROUND - S (06) OTHER	OR INTERNAL COVER) SPACE		PLEASE CHO (01) PIPELIF (02) RAIL C. (03) TANK I (04) SHIP B. (05) OTHER	NE AR 'RUCK ARGE	M BELOW		<b>.</b>	(
		HASE DEGREASING		ı	,			
MANUFACTURER OF DEG	REASING AGENT	Not a Degreasing Agent			TANK SURFACE AR	EA (SQ. FT)	NA	
TEMPERATURE OF DEGR	REASING AGENT IN TAN	IK (DEG. F)	NA NA		METHOD OF VAPOR Please choose from (01) Incineration (02) Refrigerated LI (03) Refrigerated CO (04) Carbon Adsor (05) Vapor Return (06) No Recovery SO (07) Other	below: iquid Scrubber ondenser otlon System	NA NA	
ADDIT	TIONAL MATERIA	L HANDLING DATA						
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF SA RELIEF VALVES		
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS	<b>.</b>			NUMBER OF SA CONNECTIONS		
MATE	RIAL DATA							
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	٧	
3enzene				71-43-2		Negligible		(
							<u></u>	`
							]	
		<u> </u>				5 - 700	] (S (Tank 26)	

						Page 5-74
OPERATING DAT PERCENT FUEL CONSUMPTION PER C		OPERATING SCH	IEDI II E			
DEC-FEB 10	IOAN EN	HOURS/DAY	24			
MAR-MAY 30		DAYWEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20		TTELKO/TEAK	02			
POLLUTION CON PARAMETER	TROL EQUIPMEN PRIMARY	Т	950/	OND V BY		
TYPE	None		None	ONDARY		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)		]				
WET SCRUBBER FLOW (GPM)		]				
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	D BUILDING/ARE	A DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVAT			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINA	ATE (KM)		386.2247	
MINIMUM FLOW (ACFM)		UTM Y COORDINA	ATE (KM)		4787.3342	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	32.00	STACK EXIT HEIG	HT FROM GROUND LEVE	L(FT)	33	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	ETER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		150	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSION	SNC
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
со						
NOX						
voc	TANKS 4.0		6.79E-02			
LEAD						
Benzene 71-43-2	TANKS 4.0		2.75E-04			

DEQ USE ONLY						
DEQ PLANT ID CODE		DEQ PROCESS CODE		DEQ STACK ID CO SECONDARY SCC	DE	•
PART A: GENERAL	INFORMATION					•
PROCESS CODE OR DES	CRIPTION	Tank 28 - Asphalt Cutba	ack or Additive			
STACK DESCRIPTION		Tank 28 - Pressure Reli	lef Valve			
BUILDING DESCRIPTION		Tank 28				
DATE INSTALLED	1992	DATE LAST MODIFIED				
GENE	RAL TANK AND N	ATERIAL HANDLING	3 DATA			
MATERIAL DESCRIPTION	Asphalt Cutback or	Additive	J			
TANK CAPACITY (GALLON*Note: Average annual thr		ANNUAL THROUGHPU oduct storage group. Actu		,264,862 * y be higher for individual tan 03	ıks in the storage group.	
PLEASE CHOOSE FROM E (01) FIXED ROOF (02) FLOATING ROOF (0 (03) VARIABLE VAPOR S (04) PRESSURE TANK (05) UNDERGROUND - S (06) OTHER	R INTERNAL COVER) SPACE		PLEASE CHOOS (01) PIPELINE (02) RAIL CAR (03) TANK TRU (04) SHIP BAR (05) OTHER	JCK		(
ADDIT		HASE DEGREASING Not a Degreasing Agent		TANK SURFACE AF	REA (SQ. FT) NA	l
TEMPERATURE OF DEGR			NA NA	METHOD OF VAPOI Please choose from (01) Incineration (02) Refrigerated L (03) Refrigerated C (04) Carbon Adsor (05) Vapor Return (06) No Recovery S (07) Other	R RECOVERY NA below: iquid Scrubber Condenser ption System	
ADDIT	TIONAL MATERIAL	. HANDLING DATA				
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		IUMBER OF IN-LINE	NUMBER OF SAFETY RELIEF VALVES 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING	;		NUMBER OF SAMPLING CONNECTIONS	
MATE	RIAL DATA					
HAP DESCRIPTION				IAP CAS IUMBER	HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene			7	1-43-2	0.00080%	(
			<u>L</u>		5 - VOCs (Tank 28)	

OPERATING DAT		OPERATING SCHE	DI II E			J
DEC-FEB 10	- CONTRACT	HOURS/DAY	24			
MAR-MAY 30		DAYWEEK	7			
JUN-AUG 40						
SEP-NOV 20		WEEKS/YEAR	52			
20						
POLLUTION CON PARAMETER	ITROL EQUIPMENT PRIMARY		2522	ID A DV		
TYPE	None		SECON None	IDARY		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)		]				
WET SCRUBBER FLOW (GPM)		]				
BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
VENTILATION AN	D BUILDING/AREA	DATA STA	ACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVATION	ON (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINAT	Έ (KM)		386,2266	
MINIMUM FLOW (ACFM)		UTM Y COORDINAT	E (KM)		4787,3333	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE I	NOTE BELOW)		03	
BUILDING HEIGHT (FT)	32.00	STACK EXIT HEIGH	T FROM GROUND LEVEL	(FT)	33	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAME	TER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS FI	LOWRATE (ACFM)		Negligible	
		STACK EXIT TEMPE	RATURE (DEG. F)		150	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALLC	OWABLE EMISSIC	ons
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
со						
NOX						
voc	TANKS 4.0		6.79E-02			
LEAD						
Benzene 71-43-2	TANKS 4.0		2.75E-04			
			L			

DEQ USE ONLY							_
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID CO	DDE	_
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCO		
PART A: GENERAL II	NFORMATION						
PROCESS CODE OR DESCR	RIPTION	Tank A - Fatty Acid Deri	ved Amines				
STACK DESCRIPTION		Tank A - Vent					
BUILDING DESCRIPTION		Tank A					
DATE INSTALLED	1992	DATE LAST MODIFIED		]			
GENER	AL TANK AND M	IATERIAL HANDLIN	IG DATA				
MATERIAL DESCRIPTION	Fatty Acid Derived A	mines	]				
TANK CAPACITY (GALLONS	) 15,227	ANNUAL THROUGHPU	T (GALLONS)	64,835			
TANK TYPE	01		SOURCE	03			
PLEASE CHOOSE FROM BE (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SP/ (04) PRESSURE TANK (05) UNDERGROUND - SP/ (06) OTHER	INTERNAL COVER) ACE		PLEASE CHO (01) PIPELII (02) RAIL C. (03) TANK T (04) SHIP B (05) OTHER	NE AR TRUCK A <u>RGE</u>	BELOW		
ADDITION  MANUFACTURER OF DEGRE		Not a Degreasing Agent	DATA		TANK SURFACE A	REA (SQ. FT) NA	7
TEMPERATURE OF DEGRE/			NA		METHOD OF VAPO Please choose from (01) Incineration (02) Refrigerated (03) Refrigerated (04) Carbon Adsor (05) Vapor Return (06) No Recovery (07) Other	DR RECOVERY below: Liquid Scrubber Condenser rption System	] ]
ADDITIO	ONAL MATERIAL	. HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER O	OF IN-LINE	NUMBER OF SAFETY RELIEF VALVES 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SAMPLING CONNECTIONS	
MATER	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene				71-43-2		Negligible	
,						5 - VOCs (Tank A)	

		_					
	OPERATING DATA PERCENT FUEL CONSUMPTION PER QU		OPERATING SCHE	DINE			
	DEC-FEB 10		HOURS/DAY	24			
	MAR-MAY 30		DAY/WEEK	7			
	JUN-AUG 40		WEEKS/YEAR	52			
	SEP-NOV 20		, ,				
	POLLUTION CONT	FROI EQUIRMENT	•				
	PARAMETER TYPE	PRIMARY None	1	SEC Non	CONDARY		
	TYPE CODE (FROM APP. A)						
	MANUFACTURER						
	MODEL NUMBER						
	PRESSURE DROP (IN. OF WATER)		J				
	WET SCRUBBER FLOW (GPM)		j .				
	BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
	VENTILATION AND	D BUILDING/AREA	DATA ST	ACK DATA			
	ENCLOSED (Y/N)?	N	GROUND ELEVATION			4,504	
	HOOD TYPE (FROM APP. B)		UTM X COORDINAT	E (KM)		386.2237	
	MINIMUM FLOW (ACFM)		UTM Y COORDINAT	E (KM)		4787.3074	
	PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE I			03	
	BUILDING HEIGHT (FT)	18.00	STACK EXIT HEIGH	T FROM GROUND LEV	EL (FT)	19	
	BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAME	TER (FT)		0.5	
	BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS FL	OWRATE (ACFM)		Negligible	
			STACK EXIT TEMPE	RATURE (DEG. F)		120	
	AIR POLLUTANT E	MISSIONS					
	POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSIO	ONS
		FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
	PM						
	PM-10						
	SO2						
	CO.						
	NOX						
	voc	TANKS 4.0		5.23E-04			
	LEAD						
	Benzene 71-43-2	TANKS 4.0		ND			
i							
	NOTE: STACK TYPE - 01) DOWNW EMISSION FACTOR IN LBS/	VARD; 02) VERTICAL (U /UNITS. PLEASE USE S	NCOVERED); 03) VER AME HOURLY UNITS	RTICAL (COVERED); 04 GIVEN IN FUEL DATA S	) HORIZONTAL; 05) SECTION.	FUGITIVE	

DEQ USE ONLY								(
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID COD	E		
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCC			
PART A: GENERAL IN	FORMATION							
PROCESS CODE OR DESCRI	PTION	Tank B - Ligninamine						
STACK DESCRIPTION		Tank B - Vent						
BUILDING DESCRIPTION		Tank B						
DATE INSTALLED	1992	DATE LAST MODIFIED		l				
GENERA	AL TANK AND M	ATERIAL HANDLIN	G DATA					
MATERIAL DESCRIPTION	Ligninamine		]					
TANK CAPACITY (GALLONS)	15,227	ANNUAL THROUGHPU	T (GALLONS)	51,296	•			
TANK TYPE	01		SOURCE	03				
PLEASE CHOOSE FROM BELC (01) FIXED ROOF (02) FLOATING ROOF (OR II (03) VARIABLE VAPOR SPAC (04) PRESSURE TANK (05) UNDERGROUND - SPLA (06) OTHER	NTERNAL COVER) DE		PLEASE CHO (01) PIPELIN (02) RAIL CI (03) TANK TI (04) SHIP BI (05) OTHER	NE AR FRUCK A <u>RGE</u>	BELOW	***************************************		(
		ASE DEGREASING	DATA	I				
MANUFACTURER OF DEGRE	ASING AGENT	Not a Degreasing Agent			TANK SURFACE ARE	EA (SQ. FT)	NA	
TEMPERATURE OF DEGREAS	BING AGENT IN TANK	(DEG. F)	NA NA		METHOD OF VAPOR Please choose from be (01) Incineration (02) Refrigerated Lic (03) Refrigerated Co (04) Carbon Adsorpt (05) Vapor Return S (06) No Recovery Sy (07) Other	elow: quid Scrubber indenser ion ystem	NA .	
ADDITIO	NAL MATERIAL	HANDLING DATA						
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER C	OF IN-LINE	NUMBER OF SAFET	Y 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS		•		NUMBER OF SAMPI	ING	
MATERIA	AL DATA							
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT		
Benzene				71-43-2		Negligible		(
								1
						5 - VOCs	(Tank B)	

0000471110	•					rage 5-60
OPERATING DAT PERCENT FUEL CONSUMPTION PER Q		OPERATING SCHE	DUI F			
DEC-FEB 10	07111 LIT	HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20		71 32(10) 10/1/1				
-		_				
POLLUTION CON	PRIMARY	Г	SEC	ONDARY		
TYPE	None		None			
TYPE CODE (FROM APP. A)		]				
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)		]				
BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
VENTILATION AN	D BUILDING/AREA	NATA ST	ACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVATI			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINA			386.2253	
MINIMUM FLOW (ACFM)		UTM Y COORDINA			4787.3124	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	•		03	
BUILDING HEIGHT (FT)	18.00		IT FROM GROUND LEVE	L(FT)	19	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAME		(- / /	0.5	
BUILDING/AREA WIDTH (FT)	12,00	STACK EXIT GAS F			Negligible	
, ,		STACK EXIT TEMPI			120	
			,, ,, ,, ,, ,, ,, ,, ,, ,, ,,		· · · · · · · · · · · · · · · · · · ·	
AIR POLLUTANT I						
POLLUTANT CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL	ESTIMATED OR MEASURED		OWABLE EMISSION	
	(SEE BELOW)	EFFICIENCY	EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
CO						
NOX						
VOC	TANKS 4,0		5.37E-03			
LEAD						
Benzene 71-43-2	TANKS 4.0		ND			
NOTE: STACK TYPE - 01) DOWNV EMISSION FACTOR IN LBS	VARD; 02) VERTICAL (U /UNITS. PLEASE USE S	NCOVERED); 03) VER	RTICAL (COVERED); 04) GIVEN IN FUEL DATA SI	HORIZONTAL; 05)	FUGITIVE	

DEQ USE ONLY					
DEQ PLANT ID CODE  DEQ BUILDING CODE	DEQ PROCESS CODE [		DEQ STACK ID CODE SECONDARY SCC		
PART A: GENERAL INFORMATION					,
PROCESS CODE OR DESCRIPTION	Tank G - Amines, Tall Oil, I	Hydrog, Adiponitrile			
STACK DESCRIPTION	Tank G - Vent				
BUILDING DESCRIPTION	Tank G				
DATE INSTALLED 1996	DATE LAST MODIFIED				
GENERAL TANK AND	MATERIAL HANDLING	DATA			
MATERIAL DESCRIPTION Amines, Tall Oil,	Hydrog. Adlponitrile				
TANK CAPACITY (GALLONS) 15,227	ANNUAL THROUGHPUT (	GALLONS) 62,151	]		
TANK TYPE 01	s	OURCE 03	]		
PLEASE CHOOSE FROM BELOW (01) FIXED ROOF (02) FLOATING ROOF (OR INTERNAL COVER (03) VARIABLE VAPOR SPACE (04) PRESSURE TANK (05) UNDERGROUND - SPLASH LOADING (06) OTHER	() ()	LEASE CHOOSE FROM (01) PIPELINE (02) RAIL CAR (03) TANK TRUCK (04) SHIP BARGE (05) OTHER	BELOW		· ( ,
ADDITIONAL VAPOR MANUFACTURER OF DEGREASING AGENT	PHASE DEGREASING D				
TEMPERATURE OF DEGREASING AGENT IN TA		NA	METHOD OF VAPOR RECO Please choose from below: (01) Incineration (02) Refrigerated Liquid Sc (03) Refrigerated Condens (04) Carbon Adsorption (05) Vapor Return System (06) No Recovery System (07) Other	DVERY NA crubber	
ADDITIONAL MATERIA	AL HANDLING DATA				
PHYSICAL STATE Liquid	NUMBER OF PUMP SEALS	NUMBER (	·····	MBER OF SAFETY LIEF VALVES 1	
NUMBER OF OPEN-ENDED LINES	NUMBER OF SAMPLING CONNECTIONS		NU	MBER OF SAMPLING NNECTIONS	
MATERIAL DATA					
HAP DESCRIPTION		HAP CAS NUMBER	11/	P FRACTION I MATERIAL Y WEIGHT	
Benzene		71-43-2		Negligible  5 - VOCs (Tank G)	(

					. 490 0 02	
OPERATING DATE OPERCENT FUEL CONSUMPTION PER C		OPERATING SCH	EDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20			<del></del>			
POLLUTION CON	NTROL EQUIPMEN	r				
PARAMETER	PRIMARY	•	SEC	ONDARY		
TYPE	None		None			
TYPE CODE (FROM APP. A)		]				
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ND BUILDING/AREA	A DATA S'	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVAT	ION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINA	NTE (KM)		386.2321	
MINIMUM FLOW (ACFM)		UTM Y COORDINA	ATE (KM)		4787.306	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEI	NOTE BELOW)		03	
BUILDING HEIGHT (FT)	18.00	STACK EXIT HEIG	HT FROM GROUND LEVE	EL (FT)	19	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	ETER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		120	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALI	LOWABLE EMISSI	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
СО						
NOX						
voc	TANKS 4.0		6.85E-06			
LEAD						
Benzene 71-43-2	TANKS 4.0		ND			

DEQ USE ONLY							
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID CO		
				J			
PART A: GENERAL IN	FORMATION						
PROCESS CODE OR DESCR	RIPTION	Tank J - Amines, Tall Oi	il, Hydrog. Adlpo	onitrile			
STACK DESCRIPTION		Tank J - Vent					
BUILDING DESCRIPTION		Tank J					
DATE INSTALLED	Sep 1998	DATE LAST MODIFIED		]			
GENER	AL TANK AND M	IATERIAL HANDLIN	IG DATA				
MATERIAL DESCRIPTION	Amines, Tall Oil, Hy	drog. Adiponitrile	]				
TANK CAPACITY (GALLONS)	15,227	ANNUAL THROUGHPU	T (GALLONS)	62,151	]		
TANK TYPE	01		SOURCE	03	]		
PLEASE CHOOSE FROM BEI (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPL (06) OTHER	INTERNAL COVER)		PLEASE CHO (01) PIPELII (02) RAIL C (03) TANK I (04) SHIP B (05) OTHER	NE AR FRUCK ARGE	BELOW	· · · · · · · · · · · · · · · · · · ·	]
		IASE DEGREASING	DATA	ı			
MANUFACTURER OF DEGRE		Not a Degreasing Agent	<b></b>		TANK SURFACE AF	REA (SQ. FT)	NA NA
TEMPERATURE OF DEGREA	SING AGENT IN TAN	((DEG, F)	NA i		METHOD OF VAPO Please choose from (01) Incineration (02) Refrigerated I (03) Refrigerated I (04) Carbon Adsor (05) Vapor Return (06) No Recovery I (07) Other	below: .lquld Scrubber Condenser ptlon System	NA NA
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER O	OF IN-LINE	NUMBER OF SA RELIEF VALVES	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING				NUMBER OF SA	MPLING
MATERI	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	I
Benzene				71-43-2		Negligible	]
							J
						5 - VO	] Cs (Tank J)

OPERATING DAT						Page 5-84
OPERATING DATE OPERCENT FUEL CONSUMPTION PER C		OPERATING SCHE	DULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLITION CON	ITPOL FOLIDMEN	<b></b>				
PARAMETER PARAMETER	ITROL EQUIPMEN' PRIMARY	1	SEC	ONDARY		
TYPE	None		None			
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ID BUILDING/AREA	A DATA ST	ACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVATION			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINAT	ГЕ (КМ)		386.2382	
MINIMUM FLOW (ACFM)		UTM Y COORDINAT	ΓΕ (KM)		4787.3025	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	NOTE BELOW)		03	
BUILDING HEIGHT (FT)	18.00	STACK EXIT HEIGH	IT FROM GROUND LEVI	EL (FT)	19	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAME	TER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	14.00	STACK EXIT GAS F	LOWRATE (ACFM)		Negligible	
		STACK EXIT TEMPE	ERATURE (DEG. F)		120	
AIR POLLUTANT	FMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	Ali	OWABLE EMISSIO	INS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
со						
NOX						
VOC ,	TANKS 4.0		6.85E-06			
LEAD						
Benzene 71-43-2	TANKS 4.0		ND			

DEQ USE ONLY					
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID CODE		
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCC		
PART A: GENERAL INFORMATION					
PROCESS CODE OR DESCRIPTION	Tank K - Amines, Tall Oil, Hydrog.	Adiponitrile			
STACK DESCRIPTION	Tank K - Vent				
BUILDING DESCRIPTION	Tank K				
DATE INSTALLED Sep 1996	DATE LAST MODIFIED				
GENERAL TANK AND MA	ATERIAL HANDLING DATA				
MATERIAL DESCRIPTION Amines, Tall Oil, Hyd	rog. Adiponitrile				
TANK CAPACITY (GALLONS) 15,227	ANNUAL THROUGHPUT (GALLO	NS) 62,151			
TANK TYPE 01	SOURC	E 03			
PLEASE CHOOSE FROM BELOW (01) FIXED ROOF (02) FLOATING ROOF (OR INTERNAL COVER) (03) VARIABLE VAPOR SPACE (04) PRESSURE TANK (05) UNDERGROUND - SPLASH LOADING (06) OTHER	(01) P (02) R (03) T/	CHOOSE FROM PELINE AIL CAR ANK TRUCK HIP BARGE THER	I BELOW		
ADDITIONAL VAPOR PHA				-	
	Not a Degreasing Agent		TANK SURFACE AREA	(SQ. FT)	NA NA
TEMPERATURE OF DEGREASING AGENT IN TANK			HETHOR OF MICOO OF	-001/255/	NA
	(DEG. F) NA		METHOD OF VAPOR RE Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Conde (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	w: 1 Scrubber enser I em	
ADDITIONAL MATERIAL I			Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu- (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste	w: 1 Scrubber enser I em	
			Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	w: 1 Scrubber enser I em	TY 1
PHYSICAL STATE Liquid  NUMBER OF	HANDLING DATA NUMBER OF	NUMBER	Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	N. I Scrubber enser em em	1
PHYSICAL STATE Liquid  NUMBER OF	HANDLING DATA NUMBER OF PUMP SEALS NUMBER OF SAMPLING	NUMBER	Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	N. I Scrubber enser em em NUMBER OF SAFE RELIEF VALVES	1
PHYSICAL STATE Liquid  NUMBER OF OPEN-ENDED LINES  MATERIAL DATA  HAP DESCRIPTION	HANDLING DATA NUMBER OF PUMP SEALS NUMBER OF SAMPLING	NUMBER	Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	N. I Scrubber enser em em NUMBER OF SAFE RELIEF VALVES	1
PHYSICAL STATE Liquid  NUMBER OF  OPEN-ENDED LINES  MATERIAL DATA	HANDLING DATA NUMBER OF PUMP SEALS NUMBER OF SAMPLING	NUMBER ( VALVES [	Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	NUMBER OF SAFE RELIEF VALVES NUMBER OF SAMP CONNECTIONS	1
PHYSICAL STATE Liquid  NUMBER OF OPEN-ENDED LINES  MATERIAL DATA  HAP DESCRIPTION	HANDLING DATA NUMBER OF PUMP SEALS NUMBER OF SAMPLING	NUMBER OVALVES (	Please choose from below (01) Incineration (02) Refrigerated Liquid (03) Refrigerated Condu (04) Carbon Adsorption (05) Vapor Return Syste (06) No Recovery Syste (07) Other	NUMBER OF SAFE RELIEF VALVES NUMBER OF SAMP CONNECTIONS IN MATERIAL BY WEIGHT	1

						Page 5-86
OPERATING D PERCENT FUEL CONSUMPTION PE		OPERATING SCI	HEDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20			<u></u>			
POLI LITION C	ONTROL EQUIPME	NT				
PARAMETER	PRIMARY		SEC	ONDARY		
TYPE	None		Non	е		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FP)	1)					
VENTILATION	AND BUILDING/ARI	EA DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.2397	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	ATE (KM)		4787.3076	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	18.00	STACK EXIT HEIG	HT FROM GROUND LEV	EL (FT)	19	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	14.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		120	
AIR POLLUTAN	IT EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSI	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM			(250/114)			
PM-10						
SO2						
co						
NOX						
voc	TANKS 4.0		6.85E-06			
LEAD						
Benzene 71-43-2	TANKS 4.0		ND			
	771410 4.0	<del></del>				
		<u> </u>			L	<u> </u>
			<u>t</u>	<u> </u>	I I	I

DEQ USE ONLY							<b>\</b>
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID COI	DE	
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCC		
PART A: GENERAL IN	FORMATION						
PROCESS CODE OR DESCR	IPTION	Tank 3 - Lube Oil					
STACK DESCRIPTION		Tank 3 - Vent	-				
BUILDING DESCRIPTION		Tank 3					
DATE INSTALLED	1993	DATE LAST MODIFIED		]			
GENER	AL TANK AND M	ATERIAL HANDLIN	G DATA				
MATERIAL DESCRIPTION	Lube Oil		]				
TANK CAPACITY (GALLONS)	27,071	ANNUAL THROUGHPU	Γ (GALLONS)	142,857	]		
TANK TYPE	01		SOURCE	02, 03	]		
PLEASE CHOOSE FROM BEL (01) FIXED ROOF (02) FLOATING ROOF (OR I (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPL (06) OTHER	NTERNAL COVER) CE		PLEASE CHC (01) PIPELI (02) RAIL C (03) TANK (04) SHIP B (05) OTHER	NE AR FRUCK ARGE	1 BELOW		(
ADDITIO	NAL VAPOR PH	IASE DEGREASING	DATA	_			
MANUFACTURER OF DEGRE	ASING AGENT	Not a Degreasing Agent		J	TANK SURFACE AR	EA (SQ. FT) NA	
TEMPERATURE OF DEGREA:	SING AGENT IN TANK	((DEG. F)	NA		METHOD OF VAPOR Please choose from the (01) Incineration (02) Refrigerated Li (03) Refrigerated Co (04) Carbon Adsorp (05) Vapor Return State (06) No Recovery State (07) Other	pelow: quid Scrubber ondenser stion System	
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF SAFETY RELIEF VALVES 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SAMPLING CONNECTIONS	
MATERIA	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene				71-43-2		0.00080%	1
							,
						5 - VOCs (Tank 3)	

						Page 5-66
OPERATING DAT  PERCENT FUEL CONSUMPTION PER C		OPERATING SCH	łEDUI E			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20		F F And Smill Short I Book to S	02			
<u></u>						
POLLUTION CON PARAMETER	ITROL EQUIPMEN PRIMARY	₹T	SEC	ONDARY		
TYPE	None	·	None			
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ID BUILDING/ARE	:АПАТА 9	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN			386.1551	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	,		4787.3273	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	32.00	STACK EXIT HEIG	HT FROM GROUND LEVE	L(FT)	33	•
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		120	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALI	LOWABLE EMISSION	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
co						
NOX						
voc	TANKS 4.0		1.63E-03			
ĻEAD						
Benzene 71-43-2	TANKS 4.0		1,26E-05			

DEQ USE ONLY								(
DEQ PLANT ID CODE DEQ BUILDING CODE		DEQ PROCESS CODE		]	DEQ STACK ID CO	DE		
		FINIMAL OOO		.J	SECONDARY SCC			
PART A: GENERAL IN	IFORMATION		×					
PROCESS CODE OR DESCR	IPTION	Tank 12 - Cracked Heav	y Oll Alkyl Amin	es				
STACK DESCRIPTION		Tank 12 - Vent						
BUILDING DESCRIPTION		Tank 12						
DATE INSTALLED	1994	DATE LAST MODIFIED		]				
GENER	AL TANK AND M	ATERIAL HANDLIN	G DATA					
MATERIAL DESCRIPTION	Cracked Heavy Oil A	alkyl Amines	]					
TANK CAPACITY (GALLONS)	7,051	ANNUAL THROUGHPU	T (GALLONS)	19,755	]			
TANK TYPE	01		SOURCE	03	]			
PLEASE CHOOSE FROM BEL (01) FIXED ROOF (02) FLOATING ROOF (OR I (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPL (06) OTHER	NTERNAL COVER) CE		PLEASE CHO (01) PIPELII (02) RAIL C, (03) TANK I (04) SHIP B, (05) OTHER	NE AR FRUCK A <u>RGE</u>	A BELOW			(
ADDITION MANUFACTURER OF DEGREE		ASE DEGREASING	DATA	ı	TANK OUDS ASS AS	-	<del> </del>	
TEMPERATURE OF DEGREA		Not a Degreasing Agent	NA I		TANK SURFACE AR METHOD OF VAPOR		NA NA	
		,	· V		Please choose from I (01) Incineration (02) Refrigerated Li (03) Refrigerated C (04) Carbon Adsorp (05) Vapor Return S (06) No Recovery S (07) Other	pelow: quid Scrubber ondenser Mon System	- IA	
ADDITIO	NAL MATERIAL	HANDLING DATA						
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF SARELIEF VALVES		
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS		·		NUMBER OF SA		
MATERIA	AL DATA							
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	N	
Benzene				71-43-2		0.00068%		
							]	N <sub>1</sub> ,
						<u>5 - VOC</u>	☐ Cs (Tank 12)	

						rage 0-80
OPERATING DATE PERCENT FUEL CONSUMPTION PER		OPERATING SCI	- HEDLILE			
DEC-FEB 10	SOM TEN	HOURS/DAY	24			
MAR-MAY 30		DAYWEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
	ATDOL COURSE	.i=				
POLLUTION COT PARAMETER	NTROL EQUIPMENT PRIMARY	N I	SEC	ONDARY		
TYPE	None		None			
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AI	ND BUILDING/ARE	EA DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.1136	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	ATE (KM)		4787.3606	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	12.00	STACK EXIT HEK	HT FROM GROUND LEVE	L (FT)	13	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	10.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		120	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSI	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
co	,					
NOX						
VOC	TANKS 4.0		1.66E-04			
LEAD						
Benzene 71-43-2	TANKS 4.0		0.00E+00			

DEQ USE ONLY								
DEQ PLANT ID CODE DEQ BUILDING CODE		DEQ PROCESS CODE PRIMARY SCC		 ] I	DEQ STACK ID COD	DE	 	
DEG POLEDING GODE	<u> </u>	- FRIMART 300		<u> </u>	SECONDARY SCC		<del></del>	_
PART A: GENERAL INF	ORMATION							
PROCESS CODE OR DESCRIP	TION	Tank 19 - Cracked Heavy	Oil Alkyl Amine	es				
STACK DESCRIPTION		Tank 19 - Vent						
BUILDING DESCRIPTION		Tank 19						
DATE INSTALLED	1996	DATE LAST MODIFIED						
GENERA	L TANK AND M	ATERIAL HANDLIN	G DATA					
MATERIAL DESCRIPTION	Cracked Heavy Oil Al	kyl Amines	] _					
TANK CAPACITY (GALLONS)	11,374	ANNUAL THROUGHPUT	(GALLONS)	19,755				
TANK TYPE	01		SOURCE	03				
PLEASE CHOOSE FROM BELO (01) FIXED ROOF (02) FLOATING ROOF (OR IN (03) VARIABLE VAPOR SPACI (04) PRESSURE TANK (05) UNDERGROUND - SPLAS (06) OTHER	TERNAL COVER)		PLEASE CHO (01) PIPELIN (02) RAIL CA (03) TANK T (04) SHIP BA (05) OTHER	E IR RUCK IRGE	BELOW			(
ADDITION	NAL VAPOR PH	ASE DEGREASING	DATA					
MANUFACTURER OF DEGREA	SING AGENT	Not a Degreasing Agent			TANK SURFACE ARE	A (SQ. FT)	NA	]
TEMPERATURE OF DEGREASI	NG AGENT IN TANK	(DEG. F)	NA		METHOD OF VAPOR Please choose from be (01) Incineration (02) Refrigerated Liq (03) Refrigerated Co (04) Carbon Adsorpti (05) Vapor Return Sy (06) No Recovery Sy (07) Other	elow: juid Scrubber indenser ion vstem	NA	]
ADDITION	IAL MATERIAL	HANDLING DATA						
PHYSICAL STATE		NUMBER OF PUMP SEALS		NUMBER (	OF IN-LINE	NUMBER OF SAFE RELIEF VALVES	TY	1
NUMBER OF [ OPEN-ENDED LINES		NUMBER OF SAMPLING				NUMBER OF SAMP	LING	]
MATERIA	L DATA							
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT		
Benzene			] [ [	71-43-2		0.00068%		(

	PERCENT FUE	OPERATING DATE  EL CONSUMPTION PER		OPERATING SCI	ienu e			
	DEC-FEB	10	QOARTER .	HOURS/DAY	24			
***	MAR-MAY	30		DAY/WEEK	7			
	JUN-AUG	40		WEEKS/YEAR	52			
	SEP-NOV	20		WEERSTEAR	52			
	PARAMETER	POLLUTION CO	NTROL EQUIPMENT PRIMARY	NT	ee	CONDARY		
	TYPE		None			CONDARY one		J
	TYPE CODE (F	ROM APP. A)					]	
	MANUFACTUR	ER						]
	MODEL NUMBE	≅R						j
	PRESSURE DR	OP (IN. OF WATER)						•
	WET SCRUBBE	ER FLOW (GPM)					]	
	BAGHOUSE AIR	R/CLOTH RATIO (FPM)					]	
		VENTILATION AN	ND BUILDING/ARE	A DATA S	TACK DATA			
	ENCLOSED (Y/I	N)?	N	GROUND ELEVAT			4,504	1
	HOOD TYPE (F	ROM APP. B)		UTM X COORDIN	ATE (KM)		386.2365	
	MINIMUM FLOW	(ACFM)		UTM Y COORDINA	ATE (KM)		4787.3363	
	PERCENT CAP	TURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
(	BUILDING HEIG	HT (FT)	16.00	STACK EXIT HEIG	HT FROM GROUND LE	VEL (FT)	17	I
И.,.	BUILDING/AREA	A LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	ETER (FT)		0.5	
	BUILDING/AREA	A WIDTH (FT)	11.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
				STACK EXIT TEM	PERATURE (DEG. F)		120	
		AIR POLLUTANT	EMISSIONS					
	POLLUTANT	CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	AL	LOWABLE EMISSI	ONS
			FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS	(LBS/HR)	(TONS/YR)	REFERENCE
	PM				(LBS/HR)	, , ,	, , , , , , , , , , , , , , , , , , , ,	
	PM-10							
	SO2							
	CO							
	NOX							
	VOC		7,111/0					
	LEAD		TANKS 4.0		1,84E-04			
	<del></del>	74.40.0						l
	Benzene	71-43-2	TANKS 4.0		0.00E+00			
1								
<b>\</b> /	NOTE: S	TACK TYPE - 01) DOWN	WARD: 02) VERTICAL (	(INCOVERED): 00) 1/2	EDTION (OCCUPEDED)			
	EI	TACK TYPE - 01) DOWN MISSION FACTOR IN LB:	S/UNITS. PLEASE USE	ONCOVERED); 03) VE SAME HOURLY UNIT!	R HUAL (COVERED); 04 3 GIVEN IN FUEL DATA	i) HURIZONTAL; 05 SECTION	) FUGITIVE	

DEQ USE ONLY	7.0.400						
DEQ PLANT ID CODE DEQ BUILDING CODE		DEQ PROCESS CODE		- 1	EQ STACK ID COD ECONDARY SCC	E	]
PART A: GENERAL I	NFORMATION						
PROCESS CODE OR DESC	RIPTION	Tank 20 - Cracked Heav	y Oil Alkyl Amine	es			
STACK DESCRIPTION		Tank 20 - Vent					
BUILDING DESCRIPTION		Tank 20					
DATE INSTALLED	1992	DATE LAST MODIFIED					_
GENER	RAL TANK AND N	ATERIAL HANDLIN	IG DATA				
MATERIAL DESCRIPTION	Cracked Heavy Oil A	Alkyl Amines	J				
TANK CAPACITY (GALLONS	3) 13,536	ANNUAL THROUGHPU	T (GALLONS)	19,755			
TANK TYPE	01		SOURCE	03			
PLEASE CHOOSE FROM BE (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SP, (04) PRESSURE TANK (05) UNDERGROUND - SP (06) OTHER	RINTERNAL COVER) ACE		PLEASE CHO (01) PIPELIN (02) RAIL CA (03) TANK T (04) SHIP BA (05) OTHER	IE AR RUCK ARGE	ELOW		<b></b>
ADDITION  MANUFACTURER OF DEGR		HASE DEGREASING	DATA	TΔ	NK SURFACE ARE	A (SO ET)	NA NA
TEMPERATURE OF DEGREA	ASING AGENT IN TANI		NA	ME Ple (0 (0) (0) (0)	THOD OF VAPOR ase choose from be 1) Incineration 2) Refrigerated Coi 3) Refrigerated Coi 4) Carbon Adsorpti 5) Vapor Return Sy 6) No Recovery Sys	RECOVERY elow: uld Scrubber ndenser on estem	NA NA
				•	7) Other		
ADDITIO	ONAL MATERIAL	. HANDLING DATA		•			
		NUMBER OF		(0)	7) Other	NUMBER OF SA	
PHYSICAL STATE	ONAL MATERIAL			(0)	7) Other		MPLING
PHYSICAL STATE NUMBER OF DPEN-ENDED LINES	Liquid	NUMBER OF PUMP SEALS NUMBER OF SAMPLING		(0)	7) Other	NUMBER OF SA RELIEF VALVES NUMBER OF SA	MPLING
PHYSICAL STATE NUMBER OF OPEN-ENDED LINES		NUMBER OF PUMP SEALS NUMBER OF SAMPLING		(0)	7) Other	NUMBER OF SA RELIEF VALVES NUMBER OF SA	MPLING

OPERATING DAT						
PERCENT FUEL CONSUMPTION PER C	QUARTER	OPERATING SCH	IEDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAYWEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLLUTION CON	TROL EQUIPMEN	IT				
PARAMETER TYPE	PRIMARY None		SEC:	ONDARY		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)					· · · · · · · · · · · · · · · · · · ·	
WET SCRUBBER FLOW (GPM)			·			
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	D BUILDING/ARE	A DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVAT			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.2083	
MINIMUM FLOW (ACFM)		UTM Y COORDINA	ATE (KM)		4787.3428	
PERCENT CAPTURE EFFICIENCY	STACK TYPE (SEE NOTE BELOW)				03	
BUILDING HEIGHT (FT)	16.00	STACK EXIT HEIG	HT FROM GROUND LEVE	EL (FT)	17	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	IETER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		120	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	ALL (LBS/HR)	OWABLE EMISSIO (TONS/YR)	ONS REFERENCE
PM						
PM-10						
SO2						
co						
NOX						
voc	TANKS 4.0		1.93E-04			
LEAD						
Benzene 71-43-2	TANKS 4,0		0.00E+00			
						\ <u></u>

DEQ USE ONLY							
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID CO	DDE	
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCO	;	
PART A: GENERAL IN	FORMATION				-		
PROCESS CODE OR DESCR	RIPTION	Tank 24 - Catalytic Crac	ked Oil				
STACK DESCRIPTION		Tank 24 - Pressure Reli	ef Valve				
BUILDING DESCRIPTION		Tank 24					
DATE INSTALLED	1992	DATE LAST MODIFIED		]			
GENER	AL TANK AND M	ATERIAL HANDLIN	G DATA				
MATERIAL DESCRIPTION	Catalytic Cracked O	II	]				
TANK CAPACITY (GALLONS)	27,071	ANNUAL THROUGHPU	T (GALLONS)	237,572	2		
TANK TYPE	01		SOURCE	03	]		
(02) FLOATING ROOF (OR I (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPL (06) OTHER	CE ASH LOADING	ASE DEGREASING	(02) RAIL C/ (03) TANK T (04) SHIP B/ (05) OTHER	RUCK A <u>RGE</u>			
MANUFACTURER OF DEGRE	ASING AGENT	Not a Degreasing Agent			TANK SURFACE AI	REA (SQ. FT)	NA
TEMPERATURE OF DEGREA	SING AGENT IN TANK	((DEG. F)	NA NA		METHOD OF VAPO Please choose from (01) Incineration (02) Refrigerated I (03) Refrigerated 0 (04) Carbon Adsor (05) Vapor Return (06) No Recovery (07) Other	below: Liquid Scrubber Condenser rption System	NA NA
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF S RELIEF VALVE	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS		,		NUMBER OF S	AMPLING
MATERIA	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTIO IN MATERIAL BY WEIGHT	
3enzene			;	71-43-2		Negligiibe	

OPERATING D	474					Page 5-90
OPERATING D PERCENT FUEL CONSUMPTION PE		OPERATING SC	HEDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLITION CO	ONTROL EQUIPME	:NT				
PARAMETER	PRIMARY		SEC	ONDARY		
TYPE	None		None	9		
TYPE CODE (FROM APP. A)					]	
MANUFACTURER			· 🗀			
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)					]	
BAGHOUSE AIR/CLOTH RATIO (FPM	)					
VENTILATION A	AND BUILDING/AR	EA DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.2203	
MINIMUM FLOW (ACFM)		UTM Y COORDINATE (KM) 4787				
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE NOTE BELOW) 03				
BUILDING HEIGHT (FT)	32.00					
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		100	
AIR POLLUTAN	T EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALI	LOWABLE EMISSION	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
со						
NOX						
voc	TANKS 4.0		1.72E-03			
LEAD						
Benzene 71-43-2	TANKS 4.0		3.42E-06			
			· ·			

SECTION 5: STOP								ĺ
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID COD	DE	]	· ·
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCC		]	
PART A: GENERAL IN	FORMATION							
PROCESS CODE OR DESCRI	PTION	Tank 25 - #1 Fuel					}	
STACK DESCRIPTION		Tank 25 - Pressure Rel	ef Valve				J	
BUILDING DESCRIPTION		Tank 25					j	
DATE INSTALLED	1992	DATE LAST MODIFIED		]				
GENERA	AL TANK AND M	ATERIAL HANDLIN	G DATA					
MATERIAL DESCRIPTION	#1 Fuel		]					
TANK CAPACITY (GALLONS)	17,765	ANNUAL THROUGHPU	T (GALLONS)	933,420				
TANK TYPE	01		SOURCE	03	]			
(02) FLOATING ROOF (OR IN (03) VARIABLE VAPOR SPACE (04) PRESSURE TANK (05) UNDERGROUND - SPLAE (06) OTHER	OE ASH LOADING	IASE DEGREASING	(02) RAIL C (03) TANK (04) SHIP B (05) OTHER	TRUCK ARGE			ı	( )
MANUFACTURER OF DEGREA	ASING AGENT	Not a Degreasing Agent			TANK SURFACE ARE	A (SQ. FT)	NA	٠
TEMPERATURE OF DEGREAS	SING AGENT IN TANK	((DEG. F)	NA		METHOD OF VAPOR Please choose from b (01) Incineration (02) Refrigerated Lic (03) Refrigerated Cc (04) Carbon Adsorpt (05) Vapor Return S (06) No Recovery Sy (07) Other	elow: quid Scrubber endenser ion ystem	NA	
ADDITIO	NAL MATERIAL	HANDLING DATA				,		
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF SAFE RELIEF VALVES	TY 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SAME	PLING	
MATERIA	L DATA							
HAP DESCRIPTION  Benzene				HAP CAS NUMBER 71-43-2		HAP FRACTION IN MATERIAL BY WEIGHT  0.00336%  5 - VOCs	(Tank 25)	(,,,

						raye o-ac
OPERATING DATE OPERCENT FUEL CONSUMPTION PER C		OPERATING SC	HEDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLLUTION COM	NTROL EQUIPMEN	т				
PARAMETER	PRIMARY		SE	CONDARY		
TYPE	None		No	ne		
TYPE CODE (FROM APP, A)						
MANUFACTURER			<u></u>			
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)					I	
VENTILATION AN	ND BUILDING/ARE	A DATA S	STACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	IATE (KM)		386.2173	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	IATE (KM)		4787.3304	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	21.00	STACK EXIT HEI	GHT FROM GROUND LEV	/EL (FT)	22	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIA	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		Ambient	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSIO	)NS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
CO						
NOX						
voc '	TANKS 4.0		8.97E-03			
LEAD						<u> </u>
Benzene 71-43-2	TANKS 4.0		1.03E-05			
						<u> </u>
				· · · · · · · · · · · · · · · · · · ·		

DEQ USE ONLY							
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID COL	DE	]
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCC		]
PART A: GENERAL IN	FORMATION						
PROCESS CODE OR DESCRI	IPTION	Tank 27 - #1 Fuel					]
STACK DESCRIPTION		Tank 27 - Pressure Reli	ef Valve				]
BUILDING DESCRIPTION		Tank 27					]
DATE INSTALLED	1992	DATE LAST MODIFIED		]			
GENERA	AL TANK AND M	ATERIAL HANDLIN	G DATA				
MATERIAL DESCRIPTION	#1 Fuel		]				
TANK CAPACITY (GALLONS)	17,765	ANNUAL THROUGHPUT	Γ (GALLONS)	933,420	]		
TANK TYPE	01		SOURCE	03	]		
PLEASE CHOOSE FROM BELCON (01) FIXED ROOF (02) FLOATING ROOF (OR III (03) VARIABLE VAPOR SPACO (04) PRESSURE TANK (05) UNDERGROUND - SPLEO (06) OTHER	NTERNAL COVER) CE		PLEASE CHO (01) PIPELII (02) RAIL C. (03) TANK 1 (04) SHIP B. (05) OTHER	NE AR IRUCK ARGE	A BELOW		1
•		ASE DEGREASING	DATA	ı			
MANUFACTURER OF DEGRE		Not a Degreasing Agent			TANK SURFACE ARE	EA (SQ. FT)	NA NA
TEMPERATURE OF DEGREAS	BING AGENT IN TANK	((DEG. F)	NA		METHOD OF VAPOR Please choose from b (01) Incineration (02) Refrigerated Lic (03) Refrigerated Color (04) Carbon Adsorpt (05) Vapor Return S (06) No Recovery S (07) Other	elow: quid Scrubber ondenser tlon ystem	NA NA
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER O	OF IN-LINE	NUMBER OF SAF RELIEF VALVES	ETY 1
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SAM CONNECTIONS	PLING
MATERIA	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
3enzene				71-43-2		0.00336%	

#### **SECTION 5, PART B**

NOTE:

Tier II Page 5-100

OPERATING DATA		1-age 0-100
PERCENT FUEL CONSUMPTION PER QUARTER	OPERATING SCHEDULE	
DEC-FEB 10	HOURS/DAY 24	
MAR-MAY 30	DAYWEEK 7	
JUN-AUG 40	WEEKS/YEAR 52	
SEP-NOV 20		
POLLUTION CONTROL	EQUIPMENT	
PARAMETER PRIMA TYPE None		
TYPE CODE (FROM APP. A)		
MANUFACTURER		
MODEL NUMBER		
PRESSURE DROP (IN. OF WATER)		
WET SCRUBBER FLOW (GPM)		
BAGHOUSE AIR/CLOTH RATIO (FPM)		
VENTILATION AND BUIL	DING/AREA DATA STACK DATA	
ENCLOSED (Y/N)?	N GROUND ELEVATION (FT)	4,504
HOOD TYPE (FROM APP. B)	UTM X COORDINATE (KM)	386.2219
MINIMUM FLOW (ACFM)	UTM Y COORDINATE (KM)	4787.3291
PERCENT CAPTURE EFFICIENCY	STACK TYPE (SEE NOTE BELOW)	03
BUILDING HEIGHT (FT) 2	1.00 STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	22
BUILDING/AREA LENGTH (FT) Cylindi	ical Tank STACK EXIT DIAMETER (FT)	0.5
BUILDING/AREA WIDTH (FT) 1	2.00 STACK EXIT GAS FLOWRATE (ACFM)	Negligible
	STACK EXIT TEMPERATURE (DEG. F)	Ambient
AIR POLLUTANT EMISSI	ONS	
	SSION PERCENT ESTIMATED OR	ALLOWABLE EMISSIONS
	CTOR CONTROL MEASURED BELOW) EFFICIENCY EMISSIONS (LBS/H (LBS/HR)	IR) (TONS/YR) REFERENCE
PM		
PM-10		
SO2		
со		
NOX		
VOC	(S 4.0 8.97E-03	
LEAD		
Benzene 71-43-2 TAN	(\$ 4.0 1.03E-05	

DEQ USE ONLY				1.100			
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID (	CODE	
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SO	oc	
PART A: GENERAL IN	FORMATION						
PROCESS CODE OR DESCRI	PTION	Tank 29 - Naphtha					
STACK DESCRIPTION		Tank 29 - Pressure Reli	ef Valve				
BUILDING DESCRIPTION		Tank 29					
DATE INSTALLED	1992	DATE LAST MODIFIED		]			
GENERA	AL TANK AND M	ATERIAL HANDLIN	G DATA				
MATERIAL DESCRIPTION	Naphtha & #1 Fuel		]				
TANK CAPACITY (GALLONS)	17,765	ANNUAL THROUGHPU	T (GALLONS)	219,797			
TANK TYPE	01		SOURCE	03			
PLEASE CHOOSE FROM BELC (01) FIXED ROOF (02) FLOATING ROOF (OR II (03) VARIABLE VAPOR SPAC (04) PRESSURE TANK (05) UNDERGROUND - SPLA (06) OTHER	NTERNAL COVER) DE		PLEASE CHO (01) PIPELIN (02) RAIL C (03) TANK T (04) SHIP B (05) OTHER	NE AR TRUCK A <u>RGE</u>	BELOW		J (
		ASE DEGREASING	DATA	l .	T44W 0UD5405	ADEA (00 ET)	
MANUFACTURER OF DEGRE		Not a Degreasing Agent			TANK SURFACE	AREA (SQ. FT)	NA NA
TEMPERATURE OF DEGREAS	BING AGENT IN TANK	((DEG. F)	NA I		Please choose fro (01) Incineration	d Liquid Scrubber d Condenser corption rn System	NA .
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER C	OF IN-LINE	NUMBER OF SA	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS				NUMBER OF SA	MPLING
MATERIA	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	١
Benzene				71-43-2		0.10000%	]
							]
						5 - VOC	] Os (Tank 29)

SECTION 5, PART B						Tier Page 5-10
OPERATING DAT	ГА					r age o-10
PERCENT FUEL CONSUMPTION PER	QUARTER	OPERATING SCH	IEDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAYWEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLLUTION CON	ITROL EQUIPMEN	ī				
PARAMETER TYPE	PRIMARY None		-	ECONDARY one		
TYPE CODE (FROM APP. A)				·	]	
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)					]	
WET SCRUBBER FLOW (GPM)					- ]	
BAGHOUSE AIR/CLOTH RATIO (FPM)					j	
VENTILATION AN	ID BUILDING/AREA	A DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	ΠΟΝ (FT)		4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDIN	ATE (KM)		386.2260	
MINIMUM FLOW (ACFM)		UTM Y COORDIN	ATE (KM)		4787.3275	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SE	E NOTE BELOW)		03	
BUILDING HEIGHT (FT)	21.00	STACK EXIT HEIG	HT FROM GROUND LE	EVEL (FT)	22	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	METER (FT)		0.5	
BUILDING/AREA WIDTH (FT)	12.00	STACK EXIT GAS	FLOWRATE (ACFM)		Negligible	
		STACK EXIT TEM	PERATURE (DEG. F)		Ambient	
AIR POLLUTANT	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	AL (LBS/HR)	LOWABLE EMISSI (TONS/YR)	ONS REFERENCE
PM			(======			*
PM-10						
SO2						
со						
NOX						
VOC	TANKS 4.0		5.86E-02			
LEAD						
Benzene 71-43-2	TANKS 4.0		1.05E-04			
	77.77.119		1.002-04	<u> </u>	! <b> </b>	
<u> </u>	<del></del>		L			

DEQ USE ONLY							
DEQ PLANT ID CODE		DEQ PROCESS CODE		]	DEQ STACK ID COL	DE	
DEQ BUILDING CODE		PRIMARY SCC		]	SECONDARY SCC		
PART A: GENERAL II	NFORMATION						
PROCESS CODE OR DESCR	RIPTION	Tank 68 - Cracked Heav	y Olf Alkyl Amin	es			
STACK DESCRIPTION		Tank 68 - Vent					
BUILDING DESCRIPTION		Tank 68					
DATE INSTALLED	Oct 1999	DATE LAST MODIFIED		]			
GENER	AL TANK AND N	ATERIAL HANDLIN	G DATA				
MATERIAL DESCRIPTION	Cracked Heavy Oil	Alkyl Amines	]				
TANK CAPACITY (GALLONS	11,374	ANNUAL THROUGHPU	T (GALLONS)	19,755			
TANK TYPE	01		SOURCE	03			
PLEASE CHOOSE FROM BE (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPI (06) OTHER	INTERNAL COVER) ACE		PLEASE CHO (01) PIPELIN (02) RAIL C, (03) TANK 1 (04) SHIP B, (05) OTHER	NE AR RUCK ARGE	BELOW		,
		IASE DEGREASING	DATA				
MANUFACTURER OF DEGRE		Not a Degreasing Agent			TANK SURFACE ARE	A (SQ, FT)	NA
TEMPERATURE OF DEGREA	SING AGENT IN TAN	〈(DEG. F)	NA		METHOD OF VAPOR Please choose from b (01) Incineration (02) Refrigerated Lic (03) Refrigerated Co (04) Carbon Adsorpt (05) Vapor Return St (06) No Recovery Sy (07) Other	elow: juid Scrubber indenser ion ystem	NA
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Liquid	NUMBER OF PUMP SEALS		NUMBER O	OF IN-LINE	NUMBER OF SAFET	Y 1
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING		_		NUMBER OF SAMPL	NG
MATERI	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene				71-43-2		0.00068%	
						5 - VOCs (T	ank 68)

OPERATING DAT	Α					v
PERCENT FUEL CONSUMPTION PER Q	UARTER	OPERATING SCHE	EDULE			
DEC-FEB 10		HOURS/DAY	24			
MAR-MAY 30		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 20						
POLLUTION CON	TROL EQUIPMEN	т				
PARAMETER TYPE	PRIMARY None		SEC0 None	ONDARY		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)					-	
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	D BUII DING/AREA	Δ ΠΔΤΔ Ο ΚΤ	ACK DATA			
ENCLOSED (Y/N)?	N N	GROUND ELEVATION			4,504	
HOOD TYPE (FROM APP. B)		UTM X COORDINA			386.276	
MINIMUM FLOW (ACFM)		UTM Y COORDINAT			4787.2678	
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	•		03	
BUILDING HEIGHT (FT)	16.00		IT FROM GROUND LEVE	I. (FT)	17	
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAME			0.5	
BUILDING/AREA WIDTH (FT)	11.00	STACK EXIT GAS F			Negligible	
	-	STACK EXIT TEMPI			120	
AIR POLLUTANT E	EMISSIONS					
POLLUTANT CAS NUMBER		DEDOENT	FOTULETTO OF			
FOLLOTANT GAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS	ALL (LBS/HR)	OWABLE EMISSIC (TONS/YR)	NS REFERENCE
PM			(LBS/HR)	· · · · · ·	,	
PM-10			L			
SO2						
CO						
NOX						
VOC	TANKS 4.0		1.84E-04			<u> </u>
LEAD	17440 4.0		1.042-04			
Benzene 71-43-2	TANKS 4.0		0.005.00		i	
11-40-6	1ANNO 4.0		0.00E+00			
		L				
			RTICAL (COVERED): 04) I			

DEQ USE ONLY							
DEQ PLANT ID CODE DEQ BUILDING CODE		DEQ PROCESS CODE		]	DEQ STACK ID COL	DE	
DEG BOILDING CODE		PRIMARY SCC		1	SECONDARY SCC		
PART A: GENERAL IN	IFORMATION						
PROCESS CODE OR DESCR	RIPTION	Tank 69 - Cracked Heav	y Oil Alkyl Amin	es			
STACK DESCRIPTION		Tank 69 - Vent					
BUILDING DESCRIPTION		Tank 69					
DATE INSTALLED	Oct 1999	DATE LAST MODIFIED		l			
GENER	AL TANK AND M	ATERIAL HANDLIN	G ĐATA				
MATERIAL DESCRIPTION	Cracked Heavy Oil A	Ikyl Amines	]				
TANK CAPACITY (GALLONS)	11,374	ANNUAL THROUGHPU	F (GALLONS)	19,755	5]		
TANK TYPE	01		SOURCE	03	]		
PLEASE CHOOSE FROM BEL (01) FIXED ROOF (02) FLOATING ROOF (OR (03) VARIABLE VAPOR SPA (04) PRESSURE TANK (05) UNDERGROUND - SPL (06) OTHER	INTERNAL COVER) CE		PLEASE CHO (01) PIPELIN (02) RAIL C (03) TANK I (04) SHIP B (05) OTHER	IE AR RUCK ARGE	M BELOW		(
ADDITIO	NAL VAPOR PH	ASE DEGREASING	DATA				
MANUFACTURER OF DEGRE	ASING AGENT	Not a Degreasing Agent			TANK SURFACE ARI	EA (SQ, FT) NA	
TEMPERATURE OF DEGREA	SING AGENT IN TANK	((DEG. F)	NA NA		METHOD OF VAPOR Please choose from b (01) Incineration (02) Refrigerated Lid (03) Refrigerated Ct (04) Carbon Adsorp (05) Vapor Return S (06) No Recovery St (07) Other	oelow: quid Scrubber ondenser tion system	
ADDITIO	NAL MATERIAL	HANDLING DATA					
PHYSICAL STATE	Llquid	NUMBER OF PUMP SEALS		NUMBER VALVES	OF IN-LINE	NUMBER OF SAFETY RELIEF VALVES 1	
NUMBER OF OPEN-ENDED LINES		NUMBER OF SAMPLING CONNECTIONS		·		NUMBER OF SAMPLING CONNECTIONS	
MATERI	AL DATA						
HAP DESCRIPTION				HAP CAS NUMBER		HAP FRACTION IN MATERIAL BY WEIGHT	
Benzene				71-43-2		0.00088%	(
			:				,
						5 - VOCs (Tank 69)	

OPERATING DAT	· · ·			· ·
PERCENT FUEL CONSUMPTION PER C	QUARTER	OPERATING SCH	EDULE	
DEC-FEB 10		HOURS/DAY	24	
MAR-MAY 30		DAY/WEEK	7	
JUN-AUG 40		WEEKS/YEAR	52	
SEP-NOV 20				
POLLUTION CON	ITROL EQUIPMENT	г		
PARAMETER TYPE	PRIMARY None		SECONDARY None	
TYPE CODE (FROM APP. A)		]		
MANUFACTURER				
MODEL NUMBER				
PRESSURE DROP (IN. OF WATER)				
WET SCRUBBER FLOW (GPM)				
BAGHOUSE AIR/CLOTH RATIO (FPM)		]		
VENTILATION AN	ID BUILDING/AREA	DATA SI	ACK DATA	
ENCLOSED (Y/N)?	N	GROUND ELEVAT		4,504
HOOD TYPE (FROM APP. B)		UTM X COORDINA	TE (KM)	386,0947
MINIMUM FLOW (ACFM)		UTM Y COORDINA	TE (KM)	4787.3377
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	NOTE BELOW)	03
BUILDING HÉIGHT (FT)	16.00	STACK EXIT HEIGH	HT FROM GROUND LEVEL (FT)	17
BUILDING/AREA LENGTH (FT)	Cylindrical Tank	STACK EXIT DIAM	ETER (FT)	0.5
BUILDING/AREA WIDTH (FT)	11.00	STACK EXIT GAS I	FLOWRATE (ACFM)	Negligible
		STACK EXIT TEMP	ERATURE (DEG. F)	120
AIR POLLUTANT	EMISSIONS			
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALLOWABLE EMISSIONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS (LBS/HR)	S/HR) (TONS/YR) REFERENCE
РМ				
PM-10				
\$O2				
со				
NOX				
voc	TANKS 4.0		1.84E-04	
LEAD				
Benzene 71-43-2	TANKS 4.0		0.00E+00	
NOTE: STACK TYPE - 01) DOWN	NARD: 02\\/ERTICAL /LII	VCOVEDED): 03) VEI	STICAL (COVERED): 04) HORIZON	TAL OF PLOTEUR

STACK TYPE - 01) DOWNWARD; 02) VERTICAL (UNCOVERED); 03) VERTICAL (COVERED); 04) HORIZONTAL; 05) FUGITIVE EMISSION FACTOR IN LBS/UNITS. PLEASE USE SAME HOURLY UNITS GIVEN IN FUEL DATA SECTION.

**SECTION 6: LOADING RACKS** 

MAXIMUM MATERIAL TEMPERATURE (DEG. F)

AVERAGE MATERIAL TEMPERATURE (DEG. F)

Tier II Page 6-1

DEQ USE ONLY				
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID CODE	
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCC	
DEQ SEGMENT CODE				
PART A: LOADING RACK DATA				
PROCESS CODE OR DESCRIPTION	Loading Rack #1 - Asphal	t Cement Loading		]
STACK DESCRIPTION	Loading Rack #1			
BUILDING DESCRIPTION	None			
DATE INSTALLED	Mar-99	D	ATE MODIFIED	NA
TYPE OF LOADING  Please choose from the following:  (01) Overhead loading - splash fill, normal service; (02) Overhead loading - splash fill, balanced service (03) Overhead loading - submerged fill, normal ser (04) Overhead loading - submerged fill, balanced s (05) Bottom loading - normal service; (06) Bottom loading - balanced service	ed; vice;	P ( ( (	OADING ARM VAPOR CLOSURI lease choose from the following: (01) Inclneration (02) GREENWOOD (03) SOCO (04) CHICKSAN (05) None - open to air	E 05
MATERIAL LOADED	Asphalt Cements			
ANNUAL THROUGHPUT (GAL.)	22,187,146			
REID VAPOR PRESSURE (PSI)	~0.0092 (true)			

330

NOTE:

						Page 6-2
OPERATING DAT PERCENT FUEL CONSUMPTION PER C	· -	OPERATING SCHI	=DULE			
DEC-FEB 0	.57411211	HOURS/DAY	24			
MAR-MAY 25		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35		The state of the s	02			
POLLUTION CON PARAMETER	TROL EQUIPMENT PRIMARY	Т	8500	NIDADY		
TYPE	None		None	ONDARY		
TYPE CODE (FROM APP. A)		]				
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)		]				
WET SCRUBBER FLOW (GPM)		]				
BAGHOUSE AIR/CLOTH RATIO (FPM)		j				
VENTU ATION AN	D BUILDING/AREA	- NDATA 07	ACK DATA			
ENCLOSED (Y/N)?	N BOILDING/AREA	GROUND ELEVAT			0	
HOOD TYPE (FROM APP. B)	NA NA	UTM X COORDINA			386,0996	
MINIMUM FLOW (ACFM)	0	UTM Y COORDINA				
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (SEE			4787.3221	
BUILDING HEIGHT (FT)	NA NA		HT FROM GROUND LEVE	1 (ET)	05	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIAM		L(FI)	0.01	•
BUILDING/AREA WIDTH (FT)	NA		FLOWRATE (ACFM)		0.001	,
	1177		ERATURE (DEG. F)			
		* Note: Stack exit dia	ameter and flowrate set equ		330 01 (respectively)	
AIR POLLUTANT	EMISSIONS	for use as model pa	rameters due to fugitive na	ture of emissions.		
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALI	LOWABLE EMISSIC	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS	(LBS/HR)	(TONS/YR)	REFERENCE
D14		<del></del>	(LBS/HR)			
PM						
PM-10	<u></u>					
SO2						
CO						
NOX						
VOC	2.21E-05 (lb/gal)	0	5.60E-02			
LEAD						
Benzene 71-43-2	ND (lb/gal)	0	ND			

REID VAPOR PRESSURE (PSI)

MAXIMUM MATERIAL TEMPERATURE (DEG. F)

AVERAGE MATERIAL TEMPERATURE (DEG. F)

DEQ USE ONLY				_
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID CO	DDE
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCO	<b>;</b>
DEQ SEGMENT CODE				
PART A: LOADING RACK DATA				
PROCESS CODE OR DESCRIPTION	Loading Rack #2 - PMA Loa	ading		
STACK DESCRIPTION	Loading Rack#2			
BUILDING DESCRIPTION	None			
DATE INSTALLED	Mar-99	ŧ	DATE MODIFIED	NA
TYPE OF LOADING Please choose from the following: (01) Overhead loading - splash fill, normal service; (02) Overhead loading - splash fill, balanced service; (03) Overhead loading - submerged fill, normal service; (04) Overhead loading - submerged fill, balanced service; (05) Bottom loading - normal service; (06) Bottom loading - balanced service	ce;	į	COADING ARM VAPOR College choose from the following from the following control (01) incineration (02) GREENWOOD (03) SOCO (04) CHICKSAN (05) None - open to air (06) Other	
MATERIAL LOADED	РМА			
ANNUAL THROUGHPUT (GAL.)	6,322,405			

~0.0092 (true)

330

						Page 6-4
OPERATING DATE OPERCENT FUEL CONSUMPTION PER C		OPERATING SC	HEDULE			
DEC-FEB 0		HOURS/DAY	24			
MAR-MAY 25		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35						
POLLUTION COM	NTROL EQUIPMEN	ИТ				
PARAMETER	PRIMARY	•	SE	CONDARY		
TYPE	None		No	ne		
TYPE CODE (FROM APP. A)						
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)		╛			<u> </u>	
WET SCRUBBER FLOW (GPM)		_				
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ND BUILDING/ARE	A DATA S	TACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		0	
HOOD TYPE (FROM APP. B)	NA	UTM X COORDIN	ATE (KM)		386.0999	
MINIMUM FLOW (ACFM)	0	UTM Y COORDIN	IATE (KM)		4787.3241	
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (SE	E NOTE BELOW)		05	
BUILDING HEIGHT (FT)	NA	STACK EXIT HER	GHT FROM GROUND LE	VEL (FT)	10	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIA	METER (FT)		0.01	
BUILDING/AREA WIDTH (FT)	NA	STACK EXIT GAS	FLOWRATE (ACFM)		0.001	
			PERATURE (DEG. F)		330	
		* Note: Stack exit of for use as model p	diameter and flowrate set o parameters due to fugitive	equal to 0.01 and 0.0 nature of emissions.	01 (respectively)	
AIR POLLUTANT	EMISSIONS	•	•			
POLLUTANT CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	ALI (LBS/HR)	LOWABLE EMISSIO (TONS/YR)	NS REFERENCE
PM			(=====,			
PM-10						
SO2						
co						
NOX						
VOC	2,21E-02 (lb/ga	1) 0	1.60E+01			
LEAD						
Benzene 71-43-2	ND (lb/ga	1) 0	ND			

MAXIMUM MATERIAL TEMPERATURE (DEG. F)

AVERAGE MATERIAL TEMPERATURE (DEG. F)

DEQ USE ONLY			
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	
DEQ BUILDING CODE	PRIMARY SCC	SECONDARY SCC	
DEQ SEGMENT CODE			
PART A: LOADING RACK DATA			
PROCESS CODE OR DESCRIPTION	Loading Rack #3 - Cutback Loading		
STACK DESCRIPTION	Loading Rack #3		
BUILDING DESCRIPTION	None		
DATE INSTALLED	1993	DATE MODIFIED	NA
TYPE OF LOADING  Please choose from the following:  (01) Overhead loading - splash fill, normal service; (02) Overhead loading - splash fill, balanced service (03) Overhead loading - submerged fill, normal service; (04) Overhead loading - submerged fill, balanced service; (05) Bottom loading - normal service; (06) Bottom loading - balanced service	dce;	LOADING ARM VAPOR CLOSURE Please choose from the following: (01) Incineration (02) GREENWOOD (03) SOCO (04) CHICKSAN (05) None - open to air (06) Other	05
MATERIAL LOADED	Cutback		
ANNUAL THROUGHPUT (GAL.)	6,324,311		
REID VAPOR PRESSURE (PSI)	~0.0092-1.5 (true)		

280

NOTE:

OPERATING DAT	ĭ <b>A</b>					
PERCENT FUEL CONSUMPTION PER C	QUARTER	OPERATING SC	HEDULE			
DEC-FEB 0		HOURS/DAY	24			
MAR-MAY 25		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35						
POLLUTION CON	ITROL EQUIPMEN	Т				
PARAMETER	PRIMARY			CONDARY		•
TYPE	None	<b></b>	No	ne	<del></del>	l
TYPE CODE (FROM APP. A)			<u></u>			_
MANUFACTURER			<u></u>			
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
VENTILATION AN	ID BUILDING/ARE	A DATA S	STACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		0	
HOOD TYPE (FROM APP. B)	NA	UTM X COORDIN	JATE (KM)		386.2087	
MINIMUM FLOW (ACFM)	0	UTM Y COORDIN	ATE (KM)		4787.3514	
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (SE	E NOTE BELOW)		05	
BUILDING HEIGHT (FT)	NA	STACK EXIT HER	GHT FROM GROUND LE	VEL (FT)	10	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIA	METER (FT)		0.01	*
BUILDING/AREA WIDTH (FT)	NA	STACK EXIT GAS	FLOWRATE (ACFM)		0.001	•
			PERATURE (DEG. F)		280	
		* Note: Stack exit of for use as model of	diameter and flowrate set o parameters due to fugitive	equal to 0.01 and 0.00	01 (respectively)	
AIR POLLUTANT	EMISSIONS	,	and the same same same same same same same sam	natary of officialists.		
POLLUTANT CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL	ESTIMATED OR MEASURED	ALL	OWABLE EMISSIO	ONS
	(SEE BELOW)	EFFICIENCY	EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
со						
NOX						
voc	4.81E-04 (lb/gal	) 0	3.47E-01			
LEAD			5241			
Benzene 71-43-2	3.93E-07 (lb/gal	) 0	2.84E-04			
	1 0.00E-07 (IM/gai	/	2.84E-V4			L

**SECTION 6: LOADING RACKS** 

AVERAGE MATERIAL TEMPERATURE (DEG. F)

Tier II Page 6-7

DEQ USE ONLY				
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID CODE	
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCC	
DEQ SEGMENT CODE				
PART A: LOADING RACK DATA				
PROCESS CODE OR DESCRIPTION	Loading Rack#4 - PMA Lo	oading		
STACK DESCRIPTION	Loading Rack #4			
BUILDING DESCRIPTION	None			
DATE INSTALLED	1993	DAT	TE MODIFIED	NA
TYPE OF LOADING  Please choose from the following:  (01) Overhead loading - splash fill, normal service;  (02) Overhead loading - splash fill, balanced service  (03) Overhead loading - submerged fill, normal ser  (04) Overhead loading - submerged fill, balanced service;  (05) Bottom loading - normal service;  (06) Bottom loading - balanced service	ed; vice;	Ples (01 (02 (03 (04 (05	ADING ARM VAPOR CLOSURE ase choose from the following:   ) Incineration  ) GREENWOOD  ) SOCO  ) CHICKSAN  ) None - open to air  ) Other	05
MATERIAL LOADED	РМА			
ANNUAL THROUGHPUT (GAL.)	14,752,278			
REID VAPOR PRESSURE (PSI)	~0.0092 (true)			
MAXIMUM MATERIAL TEMPERATURE (DEG. F)	330			

						Page 6-4
OPERATING DAT PERCENT FUEL CONSUMPTION PER C		OPERATING SCI	HEDIR E			
DEC-FEB 0	KOANTEN	HOURS/DAY	24	•		
MAR-MAY 25		DAYWEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35		WEEKOTEAK	02			
POLITION CON	ITROL EQUIPMEN	т				
PARAMETER	PRIMARY		SE	CONDARY		
TYPE	None		No	ne		
TYPE CODE (FROM APP. A)		]				
MANUFACTURER						
MODEL NUMBER		·				
PRESSURE DROP (IN. OF WATER)		]				
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)						
VENTILATION AN	ID BUILDING/ARE	A DATA S	STACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA	TION (FT)		0	
HOOD TYPE (FROM APP. B)	NA	UTM X COORDIN	IATE (KM)		386,2096	
MINIMUM FLOW (ACFM)	0	UTM Y COORDIN	IATE (KM)		4787,3538	
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (SE	E NOTE BELOW)		05	
BUILDING HEIGHT (FT)	NA	STACK EXIT HEK	GHT FROM GROUND LEV	VEL (FT)	10	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIAM	METER (FT)		0.01	
BUILDING/AREA WIDTH (FT)	NA		FLOWRATE (ACFM)		0.001	
	-		IPERATURE (DEG. F)		330	
		* Note: Stack exit of	diameter and flowrate set	equal to 0.01 and 0.00		
AIR POLLUTANT	EMISSIONS	for use as model p	parameters due to fugitive	nature of emissions.		
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	OWABLE EMISSIC	NS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
co						
NOX						
VOC	2.20E-05 (lb/gal	) 0	3.71E-02			
LEAD						
Benzene 71-43-2	ND (lb/gal		ND			
		<u> </u>	112			
			<u> </u>			

REID VAPOR PRESSURE (PSI)

MAXIMUM MATERIAL TEMPERATURE (DEG. F)

AVERAGE MATERIAL TEMPERATURE (DEG. F)

DEQ USE ONLY				<u> </u>
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID C	ODE
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SC	С
DEQ SEGMENT CODE				
PART A: LOADING RACK DATA PROCESS CODE OR DESCRIPTION	Looding Dook #5 and #0			
STACK DESCRIPTION	Loading Rack #5 and #6 - I	Emulsions Loading		
BUILDING DESCRIPTION	None			
DATE INSTALLED	May 2001		DATE MODIFIED	NA
TYPE OF LOADING Please choose from the following: (01) Overhead loading - splash fill, normal service; (02) Overhead loading - splash fill, balanced service; (03) Overhead loading - submerged fill, normal service; (04) Overhead loading - submerged fill, balanced service; (05) Bottom loading - normal service; (06) Bottom loading - balanced service	ce;		LOADING ARM VAPOR C Please choose from the fo (01) Incineration (02) GREENWOOD (03) SOCO (04) CHICKSAN (05) None - open to air (06) Other	
MATERIAL LOADED	Emulsions			
ANNUAL THROUGHPUT (GAL.)	20,182,466			

~0.0092 (true)

200

ODEDATING DAT						Page 6-10
OPERATING DATE PERCENT FUEL CONSUMPTION PER C		OPERATING SO	HEDIN E			
DEC-FEB 0		HOURS/DAY	24			
MAR-MAY 25		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35		7 ( 3mm) 100 ( tar 1) 1	<u>02</u>			
POLITION CON	ITROL EQUIPMEN	Ŧ				
PARAMETER	PRIMARY	1	SE	CONDARY		
TYPE	None		No			
TYPE CODE (FROM APP. A)					]	
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)		]				
WET SCRUBBER FLOW (GPM)						
BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
VENTILATION AN	ID BUILDING/ARE	A DATA S	STACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA			0]	
HOOD TYPE (FROM APP. B)	NA	UTM X COORDIN	NATE (KM)		386.2026	
MINIMUM FLOW (ACFM)	0	UTM Y COORDIN	NATE (KM)		4787.2810	
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (S	EE NOTE BELOW)		05	
BUILDING HEIGHT (FT)	NA	STACK EXIT HE	GHT FROM GROUND LEV	/EL (FT)	10	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIA	METER (FT)		0.01	
BUILDING/AREA WIDTH (FT)	NA	STACK EXIT GAS	S FLOWRATE (ACFM)		0.001	
		STACK EXIT TEN	MPERATURE (DEG. F)		200	
		* Note: Stack exit	diameter and flowrate set e parameters due to fugitive r	equal to 0.01 and 0.0	01 (respectively)	
AIR POLLUTANT	EMISSIONS	ioi use as model j	parameters due to idditive i	iature or entilesions.		
POLLUTANT CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL	ESTIMATED OR MEASURED	ALL	OWABLE EMISSIC	DNS
	(SEE BELOW)	EFFICIENCY	EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
РМ						
PM-10						
SO2						
со						
NOX						
voc	7.36E-05 (lb/gal)	ol	1.70E-01	]		
LEAD						
Benzene 71-43-2	6.13E-08 (lb/gal)		1.41E-04			<u> </u>
	O. TOC-OO (IMgal)	<u> </u>	1.410-04			

MAXIMUM MATERIAL TEMPERATURE (DEG. F)

AVERAGE MATERIAL TEMPERATURE (DEG. F)

DEQ USE ONLY	·					
DEQ PLANT ID CODE	DEQ PROCESS CODE		DEQ STACK ID CO	ODE		
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCO	3		
DEQ SEGMENT CODE						
PART A: LOADING RACK DATA						
PROCESS CODE OR DESCRIPTION	Loading Rack #8 - Emulsion	n Loading				
STACK DESCRIPTION	Loading Rack #8					
BUILDING DESCRIPTION	None					
DATE INSTALLED	June 2001	D.	ATE MODIFIED		NA	
TYPE OF LOADING  Please choose from the following:  (01) Overhead loading - splash fill, normal service;  (02) Overhead loading - splash fill, balanced service;  (03) Overhead loading - submerged fill, normal service;  (04) Overhead loading - submerged fill, balanced service;  (05) Bottom loading - normal service;  (08) Bottom loading - balanced service	ce;	Pi ( ( ( (	DADING ARM VAPOR Clease choose from the foliation of the		05	
MATERIAL LOADED	Emulsions					
ANNUAL THROUGHPUT (GAL.)	8,649,628					
REID VAPOR PRESSURE (PSI)	~0.0092 (true)					

200

						Page 6-12
OPERATING DATE OPERCENT FUEL CONSUMPTION PER C		OPERATING SC	HEDULE			
DEC-FEB 0	307,111,111	HOURS/DAY	24			
MAR-MAY 25		DAY/WEEK	7			
JUN-AUG 40		WEEKS/YEAR	52			
SEP-NOV 35			<u></u>			
POLITION CON	ITROL EQUIPMEN	т				
PARAMETER	PRIMARY	1	SEC	CONDARY		
TYPE	None		Non	16		
TYPE CODE (FROM APP. A)					]	
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)					]	
WET SCRUBBER FLOW (GPM)					]	
BAGHOUSE AIR/CLOTH RATIO (FPM)		]				
VENTILATION AN	ID BUILDING/ARE	A DATA S	STACK DATA			
ENCLOSED (Y/N)?	N	GROUND ELEVA			0	
HOOD TYPE (FROM APP. B)	NA	UTM X COORDIN	IATE (KM)			
MINIMUM FLOW (ACFM)	0	UTM Y COORDIN	IATE (KM)			
PERCENT CAPTURE EFFICIENCY	0	STACK TYPE (SE	E NOTE BELOW)		05	
BUILDING HEIGHT (FT)	NA	STACK EXIT HER	SHT FROM GROUND LEV	EL (FT)	10	
BUILDING/AREA LENGTH (FT)	NA	STACK EXIT DIAM	METER (FT)		0.01	ŧ
BUILDING/AREA WIDTH (FT)	NA	STACK EXIT GAS	FLOWRATE (ACFM)		0.001	ř
		STACK EXIT TEM	IPERATURE (DEG. F)		200	
			diameter and flowrate set e			
AIR POLLUTANT	EMISSIONS	ioi ase as model t	parameters due to fugitive n	lature or emissions,		
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALI	LOWABLE EMISSIO	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM			(LBS/FIK)			
PM-10						
SO2						
CO						
NOX						
VOC	7.36E-05 (lb/gal)	0	7.27E-02			
LEAD	1.00E-VOI(IMgal)		1,2/E-UZ			
				<u></u>		
Renzene	6.13E-08 (lb/gal)	0	6.05E-05			
					L	

#### SECTION 7: SOLID MATERIAL TRANSPORT, HANDLING, AND STORAGE - Not Applicable

DEQ USE ONLY					
DEQ PLANT ID CODE  DEQ BUILDING CODE	DEQ PROCESS CODE		DEQ STACK ID CODE		]
DEQ SEGMENT CODE	PRIMARY SCC	<u></u>	SECONDARY SCC		J
DEG SEGMENT CODE					
PART A: GENERAL INFORMATION					
PROCESS CODE OR DESCRIPTION					]
STACK DESCRIPTION					]
BUILDING DESCRIPTION					]
DATE INSTALLED OR LAST MODIFIED		DATE LAST MODIFIED			]
MATERIAL DESCRIPTION					
MATERIAL TRANSFER RATES					
MAXIMUM HOURLY TRANSFER RATE (UNITS/HOUR)					
NORMAL HOURLY TRANSFER RATE (UNITS/HOUR)					
NORMAL ANNUAL TRANSFER RATE (UNITS/YEAR)					
UNIT OF MEASURE					
BELT CONVEYOR/VEHICLE TRANSF	ER				
	RIAL MOISTURE ENT (WEIGHT PERCENT)		MAXIMUM HOURLY WIND SPEED (MPH)		] (
CONVEYORS ENCLOSED? (Y/N)	]	CONVEYORS IN BUILDIN	IGS? (Y/N)	AVERAGE HOURLY	
TRANSFERS ENCLOSED? (Y/N)	]	TRANSFERS IN BUILDING	GS? (Y/N)	WIND SPEED (MPH)	
PNEUMATIC CONVEYOR TRANSFER	S				
MATERIAL MOISTURE CONTENT (WEIGHT PERCENT)					
PRIMARY SEPARATOR TYPE		PRIMARY SEPARATOR P	PERCENT EFFICIENCY		]
SECONDARY SEPARATOR TYPE		SECONDARY SEPARATO	OR PERCENT EFFICIENCY		
MATERIAL STORAGE DATA					
PILE? (Y/N)	STORAG	E CAPACITY		PILE LENGTH (FT.)	
SILO? (Y/N)	STORAG	E CAPACITY UNITS		PILE WIDTH (FT.)	
OTHER STORAGE TYPE DESCRIPTION				PILE HEIGHT (FT.)	
MATERIAL DATA					
IAP DESCRIPTION		HAP CAS NUMBER		HAP FRACTION IN	
				MATERIAL BY WEIGHT	_
					}
					(

#### **SECTION 7, PART B - Not Applicable**

Tier II Page 7-2

OPERATING DAT	Ά.					_
PERCENT FUEL CONSUMPTION PER C	UARTER	OPERATING SCH	EDULE			
DEC-FEB		HOURS/DAY				
MAR-MAY		DAY/WEEK				
JUN-AUG		WEEKS/YEAR				
SEP-NOV				•		
POLLUTION CON	TROL EQUIPMEN	IT				
PARAMETER TYPE	PRIMARY		SE	CONDARY		
TYPE CODE (FROM APP. A)					]	
MANUFACTURER						
MODEL NUMBER						
PRESSURE DROP (IN. OF WATER)						
WET SCRUBBER FLOW (GPM)					ĺ	
BAGHOUSE AIR/CLOTH RATIO (FPM)					ĺ	
VENTILATION AN	D BUILDING/ARE	A DATA SI	TACK DATA		,	
ENCLOSED (Y/N)?		GROUND ELEVAT	ION (FT)			
HOOD TYPE (FROM APP. B)		UTM X COORDINA	TE (KM)			
MINIMUM FLOW (ACFM)		UTM Y COORDINA	TE (KM)			
PERCENT CAPTURE EFFICIENCY		STACK TYPE (SEE	NOTE BELOW)			
BUILDING HEIGHT (FT)		STACK EXIT HEIG	HT FROM GROUND LEV	/EL (FT)		
BUILDING/AREA LENGTH (FT)		STACK EXIT DIAM	ETER (FT)			
BUILDING/AREA WIDTH (FT)		STACK EXIT GAS I	FLOWRATE (ACFM)			
		STACK EXIT TEMP	ERATURE (DEG. F)			
AIR POLLUTANT I	EMISSIONS					
POLLUTANT CAS NUMBER	EMISSION	PERCENT	ESTIMATED OR	ALL	LOWABLE EMISSIO	ONS
	FACTOR (SEE BELOW)	CONTROL EFFICIENCY	MEASURED EMISSIONS (LBS/HR)	(LBS/HR)	(TONS/YR)	REFERENCE
PM						
PM-10						
SO2						
co						
NOX						
voc						
LEAD						
NOTE: STACK TYPE - 01) DOWNV	VARD: 02) VERTICAL (I	JNCOVERED): 03) VE	RTICAL (COVERED): 04	LI HORIZONTAL : 05	\ ELIGITIVE	

STACK TYPE - 01) DOWNWARD; 02) VERTICAL (UNCOVERED); 03) VERTICAL (COVERED); 04) HORIZONTAL; 05) FUGITIVE EMISSION FACTOR IN LBS/UNITS. PLEASE USE SAME HOURLY UNITS GIVEN IN FUEL DATA SECTION.

#### **SECTION 8: FUGITIVE ROAD DUST SOURCES**

Tier II Page 8-1

DEQ USE ONLY					
DEQ PLANT ID CODE	DEQ PROCESS COD	E	DEQ STACK ID CODE		(
DEQ BUILDING CODE	PRIMARY SCC		SECONDARY SCC		,
DEQ SEGMENT CODE					
PART A: GENERAL INFORMATIO	N				
ROAD DESCRIPTION Product Haul Roads		PAVED? (Y/N)	1		
LENGTH (FT.) 2000	(average)		COORDINATES		PRDINATES
WIDTH (FT.) 12		UTM-X (KM) 386.0442	UTM-Y (KM) 4787.3158	UTM-X (KM) 386.2573	UTM-Y (KM) 4787.4277
DATA FOR ALL ROA	DS - PAVED AND U	JNPAVED			
VEHICLE DESCRIPTION	NUMBER OF ROUNDTRIPS PER DAY	VEHICLE MILES TRAVELED PER DAY	NUMBER OF DAYS PER YEAR USED	AVERAGE VEHICLE SPEED (MPH)	SURFACE SILT CONTENT (% WEIGHT)
Tanker Truck	41.3	15	365	5	8.5
				DATA: UNPAVE	D ROADS
VEHICLE DESCRIPTION	VEHICLE EMPTY WEIGHT	VEHICLE FULL WEIGHT		NUMBER OF WHEELS PER VEHICLE	NUMBER OF DAYS >0.01 INCHES
Tanker Truck	(TONS)	TONS 52,75		26	PRECIPITATION 90
DATA: PAVED ROAD	S				
NUMBER OF INDUSTRIAL LANES AUGMENTATION FACTOR	DUST LOADING (LB/MILE)				
NA NA	NA				
ROAD DUST CHEMICA	AL DATA				
HAP DESCRIPTION		HAP CAS NUMBER		HAP FRACTION	
	7	TOWIDER	İ	IN ROAD DUST BY WEIGHT	
	<u>-</u> ]				
	<b>-</b> ]		i		
	<del>-</del> ]				(
	- · ·				

#### **OPERATING DATA**

PERCENT	FUEL CONSUMPTION PER QUARTER	OPERATING SCHE	DULE
DEC-FEB	10	HOURS/DAY	24
MAR-MAY	25	DAY/WEEK	7
JUN-AUG	40	WEEKS/YEAR	52
SEP-NOV	25		

#### **FUGITIVE DUST CONTROL DATA**

PARAMETER CONTROL DESCRIPTION	PRIMARY	SECONDARY
CONTROL CODE (APPENDIX C)		
MINIMUM DAILY APPLICATIONS OF CONTROL		
MAXIMUM DAILY APPLICATIONS OF CONTROL		
AVERAGE ANNUAL APPLICATIONS OF CONTROL		
AMOUNT APPLIED (UNITS/APPLICATION)		
UNITS FOR APPLICATION AMOUNT		

#### **AIR POLLUTANT EMISSIONS**

OLLUTANT	CAS NUMBER	EMISSION FACTOR (SEE BELOW)	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LBS/HR)	ALLOWABLE EMISSIONS (LBS/HR) (TONS/YR)	REFERENCE
PM						
PM-10		1.34		0.83		
LEAD						

NOTES: IN LBS/UNIT. USE UNITS OF VEHICLE MILES TRAVELED (VMT).

# SECTION 3.0 PROCESS DESCRIPTION



Idaho Asphalt Supply, Inc. Blackfoot, Idaho Facility

#### 3.0 PROCESS DESCRIPTION

Process operations at IAS involve the storage, production and distribution (loading/unloading) of asphalt binders including the following:

- Asphalt cements;
- Polymer-modified asphalt cements;
- · Asphalt cutbacks; and
- · Asphalt emulsions.

Asphalt binder is the component of asphalt pavement that holds the aggregate together and provides a waterproof cover for the base. The demand for asphalt binders is highest from April to October (when the majority of roads and parking lots are paved), and lowest during the winter months. As a result of this seasonal variation, IAS functions primarily as a bulk-storage facility during the winter, with most of the production and distribution operations being performed during the warmer months.

Sections 3.1-3.4 of this document describe the process operations at IAS, with an emphasis on equipment that has the potential to emit regulated air pollutants to the atmosphere. Associated process flow diagrams are presented at the end of Section 3.

#### 3.1 Asphalt Cement Storage and Loading/Unloading

Asphalt cement is the residue produced during the distillation of crude oils. The Blackfoot plant receives asphalt cement from regional refineries by railcar or tanker trucks. Since the asphalt cement is delivered in a semi-solid form, it must be heated with steam from boilers (CB500 and CB350) to approximately 300 °F before it can be unloaded. A portion of asphalt products delivered to the Blackfoot facility is transferred by tanker trucks to the IAS Nampa facility.

The asphalt cement is then pumped into one of 19 designated storage tanks (Tanks 4-10, 13-18, 35-38, 74, 75). These tanks are heated with steam during the warmer months to make the asphalt cement suitable for mixing and pumping. The tanks are not typically heated during the winter months, when the manufacture and distribution of asphalt cement products are minimal. However, Tanks 4 through 9 may be heated during the winter months to facilitate product transfer from Blackfoot to the Nampa facility. Volatile organic compounds (VOCs) and toxic air pollutants (TAPs) are emitted from the asphalt cement storage tanks due to changes in temperature, pressure and liquid-level. The tank vapors are vented directly to the atmosphere or to a biofilter (East Biofilter or West Biofilter). These biofilters are not considered to be emission control devices, they are used at the facility for purposes of odor control only.

In the final step of the process, asphalt cement is transferred out of the aforementioned storage tanks and into customer tanker trucks via overhead, splash loading (typically Loading Rack #1). VOCs and TAPs are emitted from the loading rack during this process.

#### 3.2 Polymer-Modified Asphalt Cement Production, Storage and Loading

Polymer-Modified Asphalt Cement (PMA) is manufactured at the Blackfoot plant by mixing asphalt cement with polymer and lube oil. The PMA product is prepared/stored in seven tanks (Tanks 4-7, 9, 74, 75). The lube oil is stored in a dedicated tank (Tank 3). These tanks are heated during the warmer months by hot oil heaters (Primary Hot Oil Heater CEI-5000G and Secondary Hot Oil Heater CEI-3000) and are maintained at ambient temperatures during the winter months. Gases that volatilize from the stored lube oil and PMA contain VOCs and TAPs. These vapors are vented directly to the atmosphere or to the East and West Biofilters.

Loading racks (typically Loading Racks #2 and #4) are used to transfer PMA product from the storage tanks to customer tanker trucks. These racks are overhead, splash-fill systems that emit VOCs and TAPs.

#### 3.3 Asphalt Cutback Production, Storage and Loading

Asphalt cutback is manufactured at the Blackfoot plant by mixing asphalt cement with fuel oil or catalytic cracked oil. Although, it is usually prepared in a customer's tanker truck, asphalt cutbacks can be made and stored in two designated tanks (Tanks 22 and 23). These tanks are heated with steam during the warmer months, but are kept at ambient temperatures during the winter when asphalt cutback is not typically stored onsite. The process additives are maintained in five storage tanks (Tanks 24-28) that are usually kept at ambient temperatures. Tanks 2, 26, and 28 can store either asphalt cutback additives or asphalt cutback product. Vapors containing VOCs and TAPs are generated during the storage of asphalt cutback and fuels. These vapors are vented directly to the atmosphere.

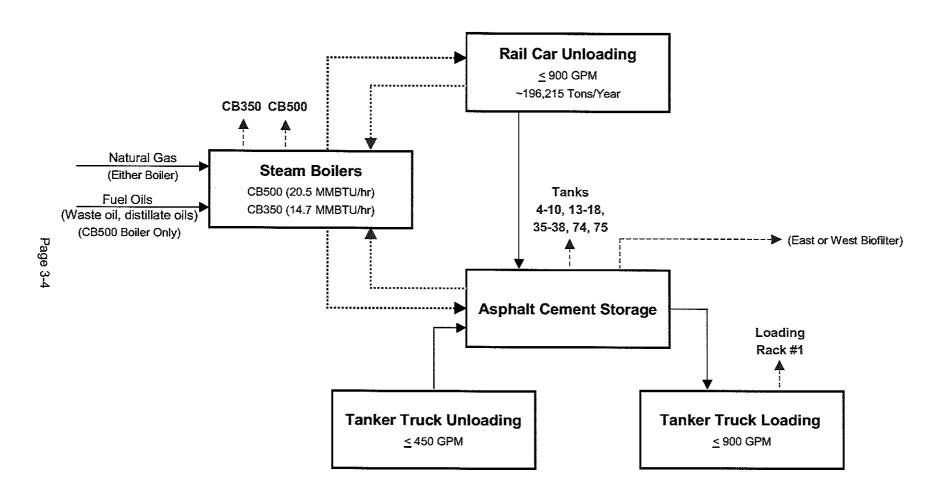
Asphalt cutback is transferred from the storage tanks into customer tanker trucks by an overhead, submerged-fill system (typically Loading Rack #3). VOCs and TAPs are emitted from the loading rack during this process.

#### 3.4 Asphalt Emulsion Production, Storage and Loading

The Blackfoot plant manufactures two types of asphalt emulsions: water-based and fuel based. Water-based emulsion is produced by combining asphalt cement with water and additives such as hydrochloric acid, latex, and emulsifiers. Fuel-based emulsion is prepared in a similar manner, but also involves the addition of petroleum distillates. The process may be performed in a tank or a customer tanker truck. The water-based emulsions are mixed/stored in ten tanks (Tanks 44-48 and 51-55) at the plant, while two tanks (Tanks 49 and 50) are typically dedicated to the preparation/storage of fuel-based emulsions. Tanks 49 and 50 can also store water-based emulsions if not needed for fuel-based emulsions. These tanks are heated during the warmer months with steam to promote mixing and pumping. Although it is not typical to have asphalt emulsions at the plant during the colder months, any emulsion product kept onsite during the winter is stored at ambient temperatures. The process additives are maintained in eight storage tanks (Tanks 25, 27, 29, A, B, J, K), several of which are heated. VOCs and TAPs are emitted from the asphalt emulsion tanks and the additive tanks. These emissions are released directly to the atmosphere.

A loading rack (typically Loading Racks #5, #6, or #8) is used to transfer asphalt emulsion from the product storage tanks to customer tanker trucks. The rack is an overhead, submerged-fill system that emits VOCs and TAPs. Although not the preferred loading method, emulsions are occasionally transferred into a tanker truck by bottom filling.

# Process Flow Diagram for Asphalt Cement Storage and Loading/Unloading Idaho Asphalt Supply, Inc. – Blackfoot Facility



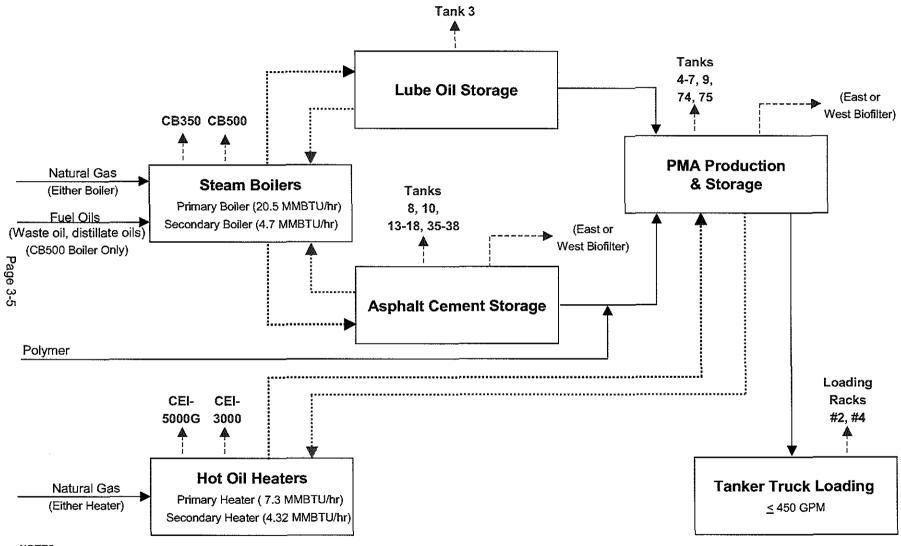
#### NOTES:

- (1) This process flow diagram depicts typical asphalt cement storage and loading/unloading operations.
- (2) The Primary and Secondary Hot Oil Heaters may be used to heat Tanks 4, 5, 6, 7, 9, 74 & 75 instead of the boilers.
- (3) To facilitate flexibility, the plant maintains multiple loading racks that can be used to load asphalt cement into tanker trucks.

<u>KEY</u>	
Product, fuel, additive	
Heating Medium	****************
Heating Return	************
Emission	

### Process Flow Diagram for PMA Production, Storage and Loading

Idaho Asphalt Supply, Inc. - Blackfoot Facility



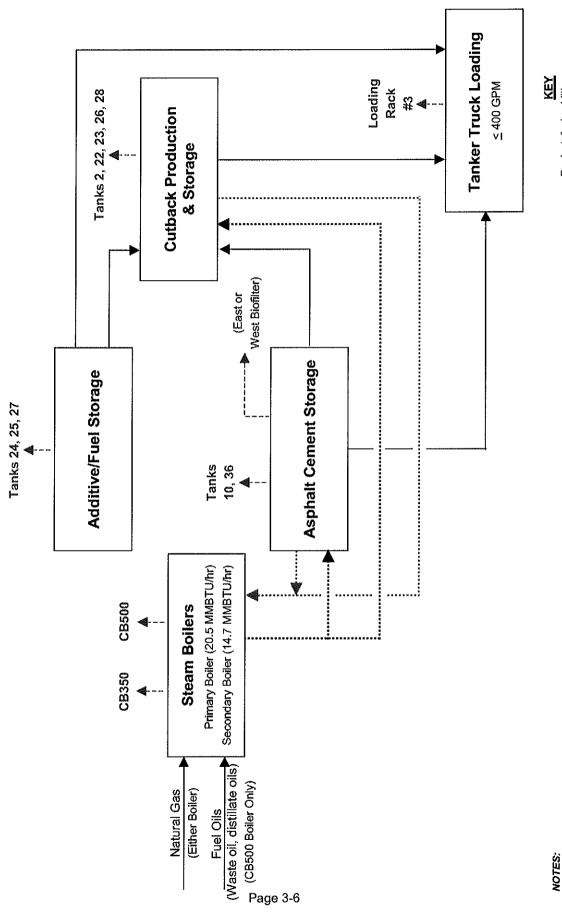
#### NOTES:

- (1) This process flow diagram depicts typical PMA production, storage and loading operations.
- (2) Lube oil and polymer are added in varying amounts during PMA production, as required by formula.
- (3) The Primary and Secondary Boilers may be used to heat Tanks 4, 5, 6, 9, 74 & 75 instead of the hot oil heaters.
- (4) To facilitate flexibility, the plant maintains multiple loading racks that can be used to load PMA into tanker trucks.

	ΚE
	_

Product, fuel, additive Heating Medium Heating Retum Emission

# Process Flow Diagram for Asphalt Cutback Production, Storage and Loading Idaho Asphalt Supply, Inc. - Blackfoot Facility



(1) This process flow diagram depicts typical asphalt cutback production, storage and loading operations.

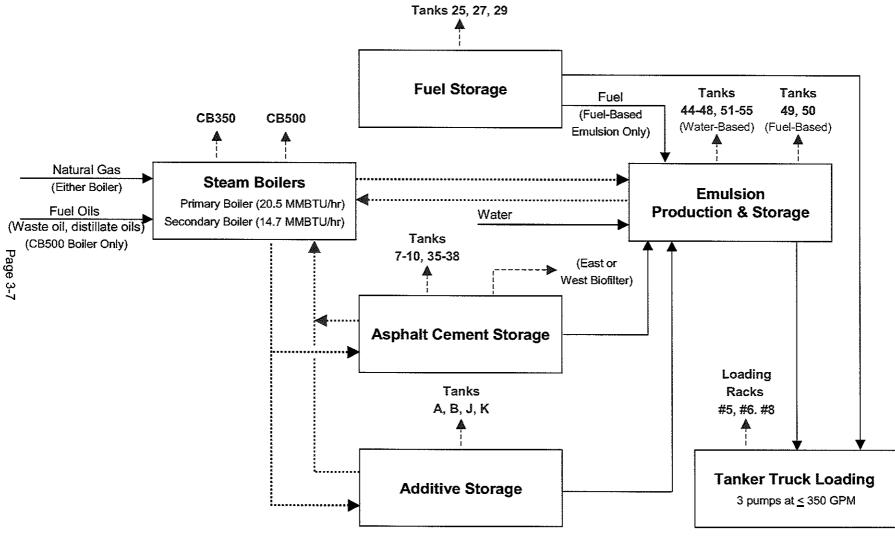
(2) Tanks 24, 26 & 28 may be heated via steam generated by the Primary and Secondary Boilers.
(3) To facilitate flexibility, the plant maintains multiple loading racks that can be used to load asphalt emulsions into tanker trucks.

Heating Retum Emission

Product, fuel, additive Heating Medium

# Process Flow Diagram for Asphalt Emulsion Production, Storage and Loading

Idaho Asphalt Supply, Inc. - Blackfoot Facility



#### NOTES:

- (1) This process flow diagram depicts typical asphalt emulsion production, storage and loading operations.
- (2) Water is added during the production of all emulsions. Fuel is added during the production of fuel-based emulsions only.
- (3) Tank 28 may be heated via steam generated by the Primary and Secondary Boilers.
- (4) To facilitate flexibility, the plant maintains multiple loading racks that can be used to load asphalt cutback into tanker trucks.

<u>KEY</u>	
Product, fuel, additive	
Heating Medium	
Heating Return	***
Emission	

# **SECTION 4.0**

# **EMISSION SOURCES**



Idaho Asphalt Supply, Inc. Blackfoot, Idaho Facility

#### 4.0 EMISSION SOURCES

Emission sources at the IAS facility include fuel burning equipment, storage and handling of volatile compounds, loading racks, vehicle traffic on unpaved roads, and miscellaneous sources. The following is a discussion of each emission source at the facility.

#### 4.1 Fuel Burning Equipment

Fuel burning equipment emission sources at the facility include two boilers (CB500 and CB350) and two hot oil heaters (Primary Hot Oil Heater CEI-5000G and Secondary Hot Oil Heater CEI-3000). This equipment is utilized to heat asphalt products to temperatures suitable for pumping and mixing. Table 4-1 below summarizes the characteristics of the fuel burning equipment operated at the facility.

Table 4-1
Fuel Burning Equipment Characteristics

	i doi barring Equipment Onaracteristics						
Unit ID	Manufacturer	Model	Heat Input (BTU/hr)	Fuel			
CB500	Cleaver Brooks	CB500	20.5x10 <sup>6</sup>	Natural Gas/ Waste Oil/Fuel Oil No. 4, 5, & 6			
CB350	Cleaver Brooks	CB350	14.65x10 <sup>6</sup>	Natural Gas			
Primary Hot Oil Heater (CEI-5000G)	CEI Enterprises	CEI-5000G	7.3x10 <sup>6</sup>	Natural Gas			
Secondary Hot Oil Heater (CEI-3000)	CEI Enterprises	CEI-3000	4.32x10 <sup>6</sup>	Natural Gas			

All fuel burning equipment at the facility except the CB500 boiler is exempt from requirements for a PTC (IDAPA 58.01.01.222.02(c)) because this equipment is used for indirect heating by combusting only natural gas and with heat input capacity less that 50 million BTU/hour. A PTC was issued for the CB500 boiler on April 15, 2001 because recycled waste oil may be combusted in this boiler as an alternative to natural gas combustion. In addition, IAS proposes to combust Fuel Oil No. 4, 5, and 6 in the CB500 boiler (this is a new proposed activity, see PTC application forms).

#### 4.2 Storage and Handling of Volatile Compounds

There are 61 fixed roof vertical above ground storage tanks at the facility used for storing asphalt cements, PMA, asphalt emulsions, asphalt cutbacks, and a variety of product additives and fuels. All of the asphalt cement product tanks are heated to keep the material in a pumpable state. Table 4-2 below summarizes the characteristics of the storage tanks at the facility.

Table 4-2
Storage Tank Characteristics

	- Ctoruge	e Tank C			1		
Tank ID Number	General Tank Contents	Tank Diameter (ft)	Tank Height (ft)	Stack Height (ft)	Tank Capacity (gal)	Storage Temp. (°F)	Emission Point
	Asp	halt Ceme	nt and P	MA			
4	PMA	30	40	46	211,493	380	West Biofilter
5	PMA	30	40	46	211,493	380	West Biofilter
6	PMA	30	40	46	211,493	380	West Biofilter
7	PMA	42	40	46	414,525	330	West Biofilter
8	Asphalt	42	40	46	414,525	330	West Biofilter
9	PMA	18	24	28	45,682	380	West Biofilter
10	Asphalt	42	40	46	414,525	330	West Biofilter
13	Asphalt	60	40	46	845,970	330	West Biofilter
14	Asphalt	60	40	46	845,970	330	West Biofilter
15	Asphalt	60	40	46	845,970	330	West Biofilter
16	Asphalt	52	40	46	635,418	330	West Biofilter
17	Asphalt	60	40	46	845,970	330	West Biofilter
18	Asphalt	52	40	46	635,418	330	West Biofilter
35	Asphalt	100	40	47	2,349,917	330	East Biofilter
36	Asphalt	75	50	57	1,652,285	330	East Biofilter
37	Asphalt	75	50	57	1,652,285	330	East Biofilter
38	Asphalt	100	40	47	2,349,917	330	East Biofilter
74	PMA	34.5	32	33	223,759	380	West Biofilter
75	PMA	34.5	32	33	223,759	380	West Biofilter
CT*	Process Tank	12	12	13	10,150	370	Vent
WT*	Process Tank	7	7	8	2,015	300	Vent
		sphalt En	nulsions				
44	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
45	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
46	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
47	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
48	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
49	Asphalt Emulsion (fuel or water)	14	36	37	41,453	150	Vent
50	Asphalt Emulsion (fuel or water)	14	36	37	41,453	150	Vent
51	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
52	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
53	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
54	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
55	Asphalt Emulsion (water)	14	36	37	41,453	200	Vent
		Asphalt Ci	utbacks				
2	Asphalt Cutback or Additive	14	36	37	41,453	150	Vent
22	Cutback	14	16	17	18,423	280	Vent
23	Cutback	14	16	17	18,423	280	Vent
26	Asphalt Cutback or Additive	12	32	33	27,071	150	Vent
28	Asphalt Cutback or Additive	12	32	33	27,071	150	Vent

Table 4-2
Storage Tank Characteristics (continued)

Tank ID Number	General Tank Contents	Tank Diameter (ft)	Tank Height (ft)	Stack Height (ft)	Tank Capacity (gal)	Storage Temp. (°F)	Emission Point		
Additives/Fuels									
Α	Fatty Acid Derived Amines	12	18	19	15,227	120	Vent		
В	Ligninamine	12	18	19	15,227	120	Vent		
G	Amines	12	18	19	15,227	120	Vent		
J	Tall Oil	12	18	19	15,227	120	Vent		
K	Hydrogenated Adiponitrile	12	18	19	15,227	120	Vent		
3	Lube Oil	12	32	33	27,071	120	Vent		
12	Cracked Heavy Oil Alkyl Amines	10	12	13	7,051	120	Vent		
19	Cracked Heavy Oil Alkyl Amines	11	16	17	11,374	120	Vent		
20	Cracked Heavy Oil Alkyl Amines	12	16	17	13,536	120	Vent		
24	Catalytic Cracked Oil	12	32	33	27,071	100	Vent		
25	#1 Diesel Fuel	12	21	22	17,765	Ambient	Vent		
27	#1 Diesel Fuel	12	21	22	17,765	Ambient	Vent		
29	Naphtha	12	21	22	17,765	Ambient	Vent		
68	Cracked Heavy Oil Alkyl Amines	11	16	17	11,374	120	East Biofilter		
69	Cracked Heavy Oil Alkyl Amines	11	16	17	11,374	120	Vent		

<sup>(\*)</sup> The CT and WT tanks are referred to as tanks 320-1 and 2320-1, respectively, in TANKS and air dispersion modeling.

Vapors from the asphalt cement storage tanks are routinely routed to two onsite biofilters (East Biofilter and West Biofilter) for odor control. The East and West Biofilters discharge to the atmosphere through vertical stacks approximately 26.25 and 45 feet above ground surface, respectively, with inside diameter of 4 inches. Vapors from storage tanks not routed through the biofilters are released to the atmosphere through a pressure relief valve installed at each tank.

The following storage tanks do not contain volatile compounds and are not included in this permit application as emission sources: C, D, F, H, I, S1, S2, and S3.

#### 4.3 Loading Racks

There are seven primary loading racks used at the facility for transferring product to customer vehicles (see Figure 1-2 for locations of loading racks). In addition to the seven primary loading racks there are several unloading stations and a few dual purpose load/unload stations that are not considered to be significant sources of emissions. Unloading stations used to transfer product from delivery vehicles are not expected to generate significant emissions (beyond those already considered as breathing/working losses from storage tanks) and are not evaluated further in this permit application. Table 4-3 below provides a summary of loading rack characteristics.

Table 4-3
Loading Rack Characteristics

Loading Rack ID	Product Transferred	Transfer Method 1		
#1	Asphalt Cement			
#2	PMA	1		
#3	Asphalt Cutback (MC)	2		
#4	PMA	1		
#5	Asphalt Emulsions	2		
#6	Asphalt Emulsions	2		
#8	Asphalt Emulsions	2		

Notes:

#### 4.4 Vehicle Traffic on Unpaved Roads

Vehicle traffic at the Blackfoot plant consists primarily of tanker trucks delivering asphalt cement and process additives to the site or picking up asphalt cement products for transport to the customer. Particulate emissions are generated when the truck wheels pulverize the surface material on the unpaved roads and the resulting particles become airborne in the vehicle's turbulent wake.

#### 4.5 Miscellaneous Sources

In addition to the emission sources described above the following emissions sources are present at the facility. These sources are considered to produce negligible emissions or are exempt by rule.

#### 4.5.1 Product-Quality Test Laboratory

The Blackfoot plant is equipped with an onsite laboratory that is used for product-quality testing, as well as research and development for potential new products. The laboratory is ventilated through several small stacks that terminate above the roofline of the building. Emission rates of regulated pollutants associated with the operation of the laboratory are considered negligible.

#### 4.5.2 Asphalt Cement Reclaimer

IAS uses a reclaimer to heat and remove residual asphalt cement from buckets, tools or equipment at the Blackfoot plant. The reclaimed asphalt is subsequently transferred to the appropriate storage tank. Emissions associated with the reclaimer are considered negligible.

#### 4.5.3 Unloading Stations

There are several unloading stations at the Blackfoot facility that are used to transfer asphalt cement products and process additives from delivery vehicles (railcars and tanker trucks) to the appropriate storage tanks. Emissions for the unloading stations, beyond those accounted for in the estimate of storage tank breathing and working losses, are considered negligible.

Transfer Methods: (1) Overhead loading, splash fill (2) Overhead loading, submerged fill, normal service

#### 4.5.4 Shop and Boiler Room Natural Gas Space Heaters

Natural gas space heaters are located in the IAS shop and in the boiler room. The rated capacity for the space heater in the shop is 0.108 million Btu/hr and the rated capacity for the space heater in the boiler room is 0.125 million Btu/hr. Both heaters have heat input capacity significantly less than 50 million Btu/hr, the maximum heat input capacity allowed for exemption from permit to construct requirements for indirect heat sources. Natural gas is combusted in both of the heaters. Emissions from these two heaters are considered negligible.

#### 4.5.5 Truck Fueling Operations

Diesel fuel is sold at the IAS facility for truck refueling. Fuel is stored and dispensed from tanker trucks at a dedicated onsite location. These activities are exempt from permit to construct requirements.

# **SECTION 5.0**

# **EMISSION ESTIMATES**



Idaho Asphalt Supply, Inc. Blackfoot, Idaho Facility

#### 5.0 EMISSION ESTIMATES

Emissions of criteria air pollutants and TAPs were estimated for all identified emission sources at the facility. Table 6-1 summarizes the estimated emissions of criteria pollutants and Table 6-2 summarizes the estimated emissions of TAPs. Based on the emission estimates presented in this permit application, the facility is not considered Major (IDAPA 58.01.01.006.55 and 008.10) for any criteria air pollutants or TAPs. The following section provides details regarding the emission estimation approach performed for each of the emission categories.

#### 5.1 Fuel Burning Equipment

Emissions from the CB500 boiler were estimated using emission factors listed in AP-42 Chapter 1.3 for fuel oil combustion, Chapter 1.4 for natural gas combustion, and Chapter 1.11 for waste oil combustion. Emissions from the CB350 boiler and two hot oil heaters (CEI-5000G and CEI-3000) were estimated using emission factors listed in AP-42 Chapter 1.4. See Appendix A for detailed emission estimates and sample calculations for the fuel burning equipment. Tables 5-1 summarizes potential emission rates for the fuel burning equipment.

The estimated particulate emissions from all fuel burning equipment are below the applicable limits of the grain loading standard (IDAPA 58.01.01.676 and 677).

#### 5.2 Storage and Handling of Volatile Compounds

Total volatile organic compound (VOC) emissions from 53 organic liquid storage tanks were estimated using TANKS 4.0 software. Complete TANKS 4.0 input and output documentation are presented in Appendix B1. Speciation of the TAPs compounds included in the total VOC emissions from the asphalt cement storage tanks were performed utilizing Tables 11.1-15 and 16 from Chapter 11.1 of AP-42 for asphalt cement emissions. Available speciation information listed in MSDS forms and/or vendor supplied documentation were utilized to estimate TAPs emissions from tanks with contents other than asphalt cement (see Appendix B2 for product speciation documentation and Appendix B3 for speciated emissions from storage tanks). See Table 5-1 for a summary of storage tank potential emission rates.

Tank throughput values were estimated by dividing the total maximum annual throughput for a particular product (e.g., asphalt cement or asphalt emulsions) by the number of tanks that store that product. This is considered a reasonable method for estimating emissions from the storage tanks but is not accurate regarding actual product throughput through each tank at the facility. Maximum product throughput through individual tanks for a particular group can be less or more than the average throughput evaluated in this screening analysis but this is a worst case scenario since maximum tank emissions occur when the throughput is evenly dispersed throughout multiple tanks as opposed to all of the product going through a single tank. Although product throughput values were used in this application to provide a method for estimating emission rates, IAS does not want product throughput limits to be

incorporated in their new permit; instead, IAS requests that limits on benzene emissions be established.

Vapors from the asphalt cement storage tanks are routinely routed to two onsite biofilters (East Biofilter and West Biofilter) for purposes of odor control. Emissions from the biofilters were estimated by summing the tank emissions that typically discharge to the respective biofilter. When considering the emissions from asphalt cement storage tanks and biofilters it must be noted that the emissions from the biofilters are not in addition to tank emissions (either the emissions from the storage tank or biofilter is considered but not both). It should also be noted that the biofilters are operated for odor control purposes and not to reduce emissions of criteria air pollutants or TAPs.

No criteria pollutants were estimated to be emitted from the storage tanks. Emissions of TAPs were below the emission screening levels (EL) for all storage tanks except Tanks 49 and 50 (these tanks exceed the EL for benzene). Although formaldehyde emission from each individual asphalt cement storage tanks is predicted to be less than the applicable EL, the estimated combined tank formaldehyde emissions through the west biofilter exceeds the EL.

#### 5.3 Loading Racks

VOC emissions from product loading were estimated utilizing emission factors contained in AP-42 chapter 5.2. Speciation of VOC emissions was performed utilizing MSDS forms, vendor information, and product recipes. Appendix C contains loading rack emission estimates and sample calculations. Table 5-1 summarizes potential emission rates for the loading racks.

No criteria pollutants were estimated to be emitted from the loading racks. Emissions of TAPs were below the emission screening levels (EL) for all loading racks.

#### 5.4 Vehicle Traffic on Unpaved Roads

Fugitive particulate emissions due to vehicle traffic on unpaved roads at the site were estimated using Equation 2 from AP-42, Section 13.2.2.2 with a correction factor for low vehicle speed. Inputs for the equation were obtained from AP-42, Tables 13.2.2-1 and 13.2.2-2. Particulate emissions were calculated for each product category (since each is loaded at a different loading rack, which results in a different travel distance). Appendix D contains fugitive road dust emission estimates.

#### 5.5 Miscellaneous Emissions

Estimation of emissions from miscellaneous sources (laboratory, reclaimer, unloading racks, and truck fuel sales) was not performed due to the low probability of emissions generation from these sources.

Table 5-1 Summary of Potential to Emit

Emission	Criteria Air Pollutants (ton/yr)				TAPS (ton/yr)			
Source	PM10	VOC	NOx	SOx	СО	Arsenic	Benzene	Formal- dehyde
CB500	5.91	0.69	33.37	47.62	7.40	2.78E-03	1.85E-04	5.84E-04
CB350	0.49	0.01	0.06	0.04	5.39	1.28E-05	1.34E-04	1.38E-04
CEI-5000G	0.24	0.00	3.14	0.02	2.63	6.27E-06	6.58E-05	6.76E-05
CEI-3000	0.13	0.00	1.82	0.01	1.53	3.63E-06	3.81E-05	3.92E-05
Storage Tanks	NA	5.92	NA	NA	NA	NA	3.57E-02	1.73E-02
Loading Racks	NA	2.83	NA	NA	NA	NA	2.13E-03	NA
Total:	6.77	9.45	38.39	47.69	16.95	0.00	0.04	0.02

# SECTION 6.0 AMBIENT IMPACT ASSESSMENT



Idaho Asphalt Supply, Inc. Blackfoot, Idaho Facility

#### **6.0 AMBIENT IMPACT ASSESSMENT**

Air dispersion modeling was performed to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) for criteria pollutants and IDEQ screening levels for TAPs in support of this combined PTC/Tier II Operating Permit application for the IAS facility.

#### 6.1 Model Description / Justification

Air dispersion modeling was performed using the short term dispersion model Industrial Source Complex with Plume Rise Model Enhancement (ISC-PRIME) (version 99020). ISC-PRIME is an alternative EPA refined model listed in Appendix W of 40 CFR Ch. I, Part 51 - Guideline on Air Quality Models. On December 9, 2005 AERMOD replaced ISCST3 as the EPA preferred air dispersion model for refined modeling of industrial point sources. A one-year transition period has been established that allows for continued use of ISCST3 through November 9, 2006. ISC-PRIME was used for this permit application because a project model had already been developed with this model and because AERMOD required meteorological input files are not readily available for the project area, It is anticipated that the results from ISC-PRIME will be closer to AERMOD results than the non-PRIME version of ISCST3 because the PRIME algorithm is incorporated into AERMOD. Building downwash was accounted for in the ISC-PRIME model. Building and tank dimensions were entered into the Building Parameter Input Program for PRIME (BPIP-PRIME) to calculate appropriate building profiles to import into ISC-PRIME. Model output files are included in Appendix E and input files are included as electronic files on an enclosed compact disc.

#### 6.2 Emission and Source Data

Thirty-four point sources were modeled, which included four combustion sources, four loading racks, 24 storage tanks, and two biofilters, Four criteria pollutants (PM-10, NOx, SOx, and CO) were modeled from the combustion sources. No criteria pollutants were predicted to be emitted from the storage tanks or loading racks and therefore were not modeled from these sources. The TAPs: arsenic (As), benzene, cadmium (Cd), formaldehyde, and nickel (Ni) were modeled from the combustion sources. The TAPs benzene and formaldehyde were modeled from the storage tank and loading rack sources.

Air dispersion modeling was performed considering maximum uncontrolled conditions for the CB350, CEI5000G, and CEI3000 combustion sources, asphalt cement storage tanks, and asphalt cement loading racks. Asphalt cutback and asphalt emulsion (with fuel) emissions were controlled based on limits applied to product benzene content. Emissions from the CB500 boiler were modeled as worst case considering combustion of a variety of fuels, the following operational controls were considered for CB500 fuel combustion:

- Natural Gas = unlimited operation
- Waste oil = 5,477 hours per year (to prevent exceedance of Arsenic AACC)
- Fuel Oils No. 4 through 6 = unlimited for No. 5 and 6, Fuel Oil No. 4 limited to 8,642 hours per year (to prevent exceedance of Nickel AACC).

Tables 6-1 and 6-2 summarize the emission source parameters included in the air dispersion modeling of criteria air pollutants and TAPs, respectively. These parameters include stack height in meters from ground surface, stack diameter, stack gas temperature, stack gas velocity, and air pollutant emission rates. Two scenarios were modeled for the ambient impact analysis for TAPs. The first scenario was a default configuration with emission rates from each tank based on total annual average product throughput. The second scenario included two tank groups: Asphalt Cutback Group with Tank 22 used as the proxy emission point and Asphalt Emulsion Group with Tank 50 used as the proxy emission point. Tanks 22 and 50 were used as proxy emission points for asphalt cutback and asphalt emulsion storage tank emissions, respectively, because the ambient impact was higher (worst-case) at these tanks than the contribution from the other storage tanks locations in the product storage group. For this second scenario all of the emissions from the storage tanks in each group were added together and modeled as emissions from the selected proxy emission point. Emissions from sources not in the two source groups were modeled as individual point sources. The second scenario was found to produce worst-case predicted ambient air concentrations and was therefore selected as the option for demonstrating compliance.

Table 6-1
Criteria Air Pollutant Emission Source Characteristics

	Cénale	Ctack	Errhaust	Ctable		Emission	Emission Rates (g/s)			
Emission Source	Stack Height (m)	Stack Diam. (m)	Exhaust Temp. (K)	Stack Gas Velocity (m/s)	PM10	NOx	SOx	CO		
Combustion S	ources				646 644 5					
CB500	15.85	0.60	533.15	13.66	0.17	0.960	1.37	0.213		
CB350	9.04	0.508	399.82	10.57	0.014	1.84E-3	1.10E-3	0.155		
CEI-5000G	3.07	0.407	588.71	11.91	6.85E-3	9.02E-2	5.41E-4	7.57E-2		
CEI-3000	4.47	0.305	544.26	11.34	3.87E-3	5.23E-2	3.14E-4	4.39E-2		

Table 6-2
TAPs Emission Source Characteristics

	Stack	Stack	Exhaust	Stack	Emission Rates (g/s)						
Emission Source	Height (m)	Diam (m)	Temp (K)	Gas Velocity (m/s)	As	Cd	Ni 	Ben- zene	Form- aldehyde		
Combustion Sour	ces										
CB500	15.85	0.60	533.15	13.66	8.0E-5	3.3E-5	1.47E-3	5.32E-6	5.94E-4		
CB350	9.04	0.508	399.82	10.57	3.68E-7	2.02E-6	3.87E-6	3.87E-6	1.38E-4		
CEI-5000G	3.07	0.407	588.71	11.91	1.8E-7	9.92E-7	1.89E-6	1.89E-6	6.76E-5		
CEI-3000	4.47	0.305	544.26	11.34	1.05E-7	5.75E-7	1.10E-6	1.10E-6	3.92E-5		
Asphalt Cement S											
West Biofilter	13.70	0.10	Ambient	0.00	NA	NA	NA	1.46E-5	3.15E-5		
East Biofilter	8.00	0.10	Ambient	0.00	NA	NA	NA	2.57E-6	5.54E-5		
Tank CT*	3.96	0.15	460.93	0.00	NA	NA	NA	6.96E-7	1.50E-5		
Tank WT*	2.44	0.15	422.04	0.00	NA	NA	NA	2.20E-8	4.73E-7		
Asphalt Emulsion	Storage										
Tank 44	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 45	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 46	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 47	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 48	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 49	11.28	0.15	338.71	0.00	NA	NA	NA	3.83E-4	2.05E-5		
Tank 50	11.28	0.15	338.71	0.00	NA	NA	NA	3.83E-4	2.05E-5		
Tank 51	11.28	0.15	366.48	0.00	NA NA	NA NA	NA NA	6.17E-9	1.33E-7		
Tank 52	11.28	0.15		0.00	NA NA	NA NA	NA NA	6.17E-9	1.33E-7		
			366.48				NA NA				
Tank 53	11.28	0.15	366.48	0.00	NA	NA		6.17E-9	1.33E-7		
Tank 54	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Tank 55	11.28	0.15	366.48	0.00	NA	NA	NA	6.17E-9	1.33E-7		
Asphalt Emulsion	11.28	0,15	338.71	0.00	NA	NA	NA	7.66E-4	4.23E-5		
Group (Tank 50)		<u> </u>									
Asphalt Cutback S											
Tank 2	11.28	0.15	338.71	0.00	NA	NA	NA	4.28E-5	2.06E-5		
Tank 22	5.18	0.15	410.93	0.00	NA	NA	NA	5.58E-5	3.98E-6		
Tank 23	5.18	0.15	410.93	0.00	NA	NA	NA	5.58E-5	3.98E-6		
Tank 26	10.06	0.15	338.71	0.00	NA	NA	NA	3.46E-5	2.06E-5		
Tank 28	10.06	0.15	338.71	0.00	NA	NA	NA	3.46E-5	2.06E-5		
Asphalt Cutback	5.18	0.15	410.93	0.00	NA	NA	NA	2.24E-4	6.97E-5		
Group (Tank 22)								'- '	· · · · · · · · · · · ·		
Additives/Fuels St	orage Ta	nks									
Tank 3	10.06	0.15	322.04	0.00	NA	NA	NA	NA	NA		
Tank 24	10.06	0.15	310.93	0.00	NA	NA	NA	NA	NA		
Tank 25	6.71	0.15	ambient	0.00	NA	NA	NA	NA	NA		
Tank 27	6.71	0.15	ambient	0.00	NA	NA	NA	NA	NA		
Tank 29	6.71	0.15	ambient	0.00	NA	NA	NA	NA	NA		
Loading Racks											
LR #3 (Cutback)	3.00	0.01	410.93	0.00	NA	NA	NA	2.84E-4	NA		
LR #5 (Emulsion)	3.00	0.01	338.71	0.00	NA	NA	NA	8.90E-6	NA		
LR #6 (Emulsion)	3.00	0.01	338.71	0.00	NA	NA	NA	8.90E-6	NA		
LR #8 (Emulsion)	3.00	0.01	366.48	0.00	NA	NA	NA	7.62E-6	NA		

<sup>(\*)</sup> The CT and WT tanks are referred to as tanks 320-1 and 2320-1, respectively, in TANKS and air dispersion modeling.

#### 6.3 Receptor Network

A receptor network was established so that ambient concentrations could be evaluated. The first step in this process was to determine the location of the ambient air boundary and the second step was to assign receptor locations within the ambient air zone.

#### 6.3.1 Ambient Air Boundary

The ambient air boundary was established as the facility's fenceline. The fenceline extends around the entire facility's property boundary (see Figure 1-2 for location of fenceline).

#### 6.3.2 Receptors

Receptors were established to determine maximum ambient air concentrations. A receptor grid with approximately 100 meter spacing was established across the entire evaluated area. Receptors along the ambient air boundary were spaced between 25 and 50 meters apart. Additional receptors were added as needed to determine the maximum model predicted ambient air concentration. No receptors were established within the facility's controlled property boundary (ambient air boundary).

#### 6.4 Elevation Data

The facility was modeled assuming flat terrain. The change in elevation across the site, from east to west, is approximately four feet. The change in elevation, from south to north, is approximately 3 feet. All model predicted maximum air concentrations occur at or within 200 meters of the ambient air boundary. There are not any significant elevation changes to the north of the ambient air boundary where the maximum ambient air concentrations are predicted. Within a half mile of the site, the ground surface elevations do not exceed the stack discharge elevations. There are no terrain elevations that exceed the emission source elevations and terrain elevations are relatively flat in the areas of predicted maximum ambient air concentrations, so the terrain was modeled as flat with simple terrain.

#### 6.5 Meteorological Data

Meteorological data was obtained from the EPA SCRAM website for 1987 through 1991, the current default time period selected by the IDEQ to represent the worse case five year meteorological period. Since there are no acceptable meteorological datasets available for Blackfoot, a combined dataset comprised of Boise upper air data and Pocatello near-surface air data was used per guidance from IDEQ. The datasets were formatted for use in ISC-PRIME using the EPA meteorological preprocessor PCRAMMET. The anemometer height for surface meteorological data was entered as 20 feet.

#### 6.6 Land Use Classification

The land use of the site and land adjacent to the site is classified as rural. The facility is industrial while the surrounding land is a mix of open space, agricultural, commercial, and residential land uses.

#### 6.7 Background Concentrations

Table 6-3 summarizes the criteria pollutant background concentrations. Criteria pollutant background concentrations for the Blackfoot area were provided by Kevin Schilling of the IDEQ.

#### 6.8 Evaluation of Compliance With Standards

To determine compliance with NAAQS, the applicable background concentrations were added to the maximum predicted ambient concentrations determined from air dispersion modeling to result in total ambient concentrations. These total ambient air concentrations were compared to the NAAQS. Table 6-3 summarizes the air dispersion modeling results and compares the total predicted ambient air concentration to the applicable NAAQS. See Appendix E for graphical output from air dispersion modeling. Based on this evaluation, no NAAQS are predicted to be exceeded by emissions from the sources, if operated and configured as proposed in this application.

Table 6-3
Results of Ambient Impact Assessment for Criteria Pollutants
(All Concentrations in Units of µg/m³)

	Averaging	M	leteoro	logical	Datas	et	Compliance Demonstration				
Pollutant	Period	1987	1988	1989	1990	1991	Max	Background	Total	NAAQS	
PM10	24 hr, 2 <sup>nd</sup> high	5	5	5	5	4	5	73	78	150	
	Annual	1	2	1	1	1	2	26	28	50	
NOx	Annual	18	22	17	19	18	22	17	39	100	
co	1hr, 2nd high	117	117	116	117	117	117	3,600	3,717	40,000	
	8hr, 2nd high	75	89	67	72	79	89	2,300	2,389	10,000	
SOx	3hr, 2nd high	81	88	78	89	79	89	34	123	1300	
	24hr, 2 <sup>nd</sup> high	43	44	39	42	33	44	26	70	365	
	Annual	4	4	3	3	4	4	8	12	80	

#### 6.9 Evaluation of Ambient Impact Assessment for TAPs

Table 6-4 summarizes the results of air dispersion modeling performed to evaluate the ambient impact for TAPs. Maximum predicted ambient air concentrations were compared to Acceptable Ambient Concentration for Carcinogens (AACC) in Table 6-4. No AACC were exceeded by predicted ambient air concentrations; therefore, the predicted ambient impact from predicted TAP emissions is acceptable.

Table 6-4
Results of Ambient Impact Assessment for Toxic Air Pollutants
(All Concentrations in Units of ug/m³)

	Averaging		Meteor	Compliance				
Pollutant	Period	1987	1988	1989	1990	1991	Maximum	AACC
Arsenic	Annual	2.1E-04	2.3E-04	1.8E-04	2.0E-04	2.2E-04	2.3E-04	2.3E-04
Benzene	Annual	9.2E-02	1,1E-01	8.5E-02	9.1E-02	8.8E-02	1.1E-01	1.2E-01
Cadmium	Annual	2.0E-04	2.5E-04	1.9E-04	2.1E-04	2.0E-04	2.5E-04	5.6E-04
Formaldehyde	Annual	3.2E-02	3.5E-02	3.1E-02	3.2E-02	3.2E-02	3.5E-02	7.7E-02
Nickel	Annual	3.9E-03	4.2E-03	2.9E-03	3.6E-03	4.0E-03	4.2E-03	4.2E-03

# SECTION 7.0 NSPS APPLICABILITY



#### 7.0 NSPS APPLICABILITY

New Source Performance Standards (NSPS) for volatile organic liquid storage tanks (Subpart Kb) and steam generating units (Subpart Dc) were evaluated for applicability to emission sources at the facility.

#### 7.1 Storage Tanks

All storage tanks at the facility are exempt from requirements of NSPS Subpart Kb (see 40 CFR 60.110b(a) and (b)). Exemption is based on storage tank size and vapor pressure of stored liquids. See Appendix F for basis of exemption determination.

#### 7.2 Boilers

The following NSPS requirements apply to the CB500 boiler:

#### §60.42c Standard for Sulfur Dioxide

- (d) Since the boiler can combust oil, the facility must either demonstrate that  $SO_2$  emissions are less than 0.50 lb/million Btu or only combust oil with sulfur content less than or equal to 0.5 weight percent.
- (h) A facility that only combusts residual oils in a boiler with heat input capacity less than 30 million Btu/hr is allowed to demonstrate compliance with SO<sub>2</sub> emission limits based on fuel certification from fuel supplier.

#### §60.43c Standard for Particulate Matter

All boilers have heat input capacity less than 30 million Btu/hr; therefore, the standards for particulate matter do not apply.

#### §60.44c Compliance and performance test methods and procedures for sulfur dioxide

(h) Since the facility intends to demonstrate compliance with the SO<sub>2</sub> standard using fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f)(1), (2), or (3), as applicable.

#### § 60.46c Emission monitoring for sulfur dioxide

(e) None of the monitoring requirements apply since the facility is using fuel supplier certification to demonstrate compliance.

#### § 60.48c Reporting and recordkeeping requirements.

(a) This section applies to both the CB500 and CB350 boilers. The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part.

#### This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

- (d) A report must be submitted to the administrator since a fuel oil sulfur limit will apply to the CB500 boiler.
- (e) Records must be maintained reports must be submitted since a fuel oil sulfur limit will apply to the CB500 boiler.

The following information must be provided:

- (1) Calendar dates covered in the reporting period.
- (2) Each 30-day average SO<sub>2</sub> emission rate (nj/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.
- (5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
- (6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.
- (11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), or (3) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.
- (f) Fuel supplier certification shall include the following information:
- (1) For distillate oil:
- (i) The name of the oil supplier; and
- (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c.
- (2) For residual oil:
- (i) The name of the oil supplier;
- (ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;
- (iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and
- (iv) The method used to determine the sulfur content of the oil.

## **SECTION 8.0**

## REQUESTED PERMIT BASIS/CONDITIONS



#### 8.0 REQUESTED PERMIT BASIS/CONDITIONS

#### 8.1 Natural Gas Combustion

Air dispersion modeling was performed considering maximum combustion of natural gas in each boiler and hot oil heater. Based on this ambient impact analysis no limitation on natural gas combustion is necessary to remain below NAAQS or TAPs limits; therefore, no natural gas limits appear to be necessary. If required, only a facility wide natural gas combustion limit of 403.1 million scf/yr should apply.

#### 8.2 Fuel Oil Combustion

Emissions from the CB500 boiler were modeled as worst-case considering combustion of a variety of fuels. Based on worst-case air dispersion modeling, the proposed fuel oil use limits for the CB500 boiler are:

- Waste oil = 5,477 hours per year (to prevent exceedance of Arsenic AACC)
- Fuel Oils No. 4 through 6 = unlimited for No. 5 and 6, Fuel Oil No. 4 limited to 8,614 hours per year (to prevent exceedance of Nickel AACC).

### 8.3 Asphalt Cement Throughput

Emission estimates were computed assuming that annual asphalt cement throughput was equally split among storage tanks. This is a conservative assumption and results in worst-case emission estimates. Since equally splitting throughput among storage tanks is worst-case, flexibility in tank loading should be allowed. Only a total asphalt cement throughput limit (43.3 million gallons per year) should apply to the facility. Compliance with the annual facility wide asphalt cement throughput limit will be demonstrated based on incoming manifests and loading records.

### 8.4 Asphalt Cutback and Asphalt Emulsion Throughput

Air dispersion modeling was performed assuming all tank emissions from asphalt cutback storage were emitted from Tank 22 and all asphalt emulsion storage emissions were emitted from Tank 50. This was a worst-case assumption to allow flexibility in loading of the storage tanks in each of the product groups. IAS requests that throughput for the asphalt cutback and asphalt emulsion storage groups be limited based on total product benzene content for each group and not by total product throughput. IAS also requests that the benzene limits apply to the product groups instead of individual tanks. The proposed benzene throughput limits, based on worst-case air dispersion modeling are:

- Asphalt Cutback Storage Tank Group (Tanks 2, 23, 26, and 28): 159 lb/yr benzene
- Asphalt Cutback Loading Racks (LR 3): 51 lb/yr benzene
- Asphalt Emulsion Storage Tank Group (Tanks 44 though 55): 252 lb/yr benzene
- Asphalt Emulsion Loading Racks (LR 5, 6, and 8): 252 lb/yr benzene

## **APPENDIX A**

## FUEL BURNING EQUIPMENT EMISSION ESTIMATES AND SAMPLE CALCULATIONS



#### SAMPLE CALCULATIONS - FUEL BURNING EQUIPMENT

The following sample calculations are for the CB500 boiler (combustion of natural gas). Calculations were performed identically for combustion of other fuel oils and for the other emission sources (CB350 boiler, Primary Hot Oil Heater CEI-5000G, and Secondary Hot Oil Heater CEI-3000).

### 1.) Air Pollutant Emissions (CB500 boiler)

#### Data:

Emission Factor = 7.6 lb PM<sub>10</sub>/10<sup>6</sup> scf (AP-42, Table 1.4-2) Input Heat Capacity = 20.5 x 10<sup>6</sup> BTU/hr (CB500 boiler) Natural Gas Heating Value = 1,020 BTU/scf (AP-42, Section 1.4)

#### Calculations:

Max Hourly Fuel consumption =  $(20.5 \times 10^6 \text{ BTU/hr}) / (1,020 \text{ BTU/scf}) = 20,098 \text{ scf/hr}$ PM<sub>10</sub> Hourly Emission Rate =  $(20,098 \text{ scf/hr}) \times (7.6 \text{ lb PM}_{10}/10^6 \text{ scf})$ PM<sub>10</sub> Hourly Emission Rate = 0.153 lb/hr

Emission rates for all criteria pollutant and TAPs were calculated in the same manner as PM<sub>10</sub> using the appropriate emission factors.

### 2.) Grain Loading Standard Compliance

#### Data:

 $F_d$  = 0.00871 dscf stack gas/BTU (40 CFR 60, App. A, Method 19, Table 19-1) Input Heat Capacity = 20,500,000 BTU/hr (CB500 boiler) Standard Pressure = ( $P_s$ ) = 760 mm Hg

#### Calculations:

Blackfoot Barometric Pressure =  $(P_B)$  =  $(29.92 - (0.001 \times Blackfoot Elevation)) \times 25.4 mm/inch)$ 

 $P_B = (29.92 - (0.001 \text{ x } 4,504 \text{ ft})) \text{ x } 25.4 \text{ mm/inch} = 645.57 \text{ mm Hg}$ Dry Standard Flow Rate =  $Q_{ds} = (F_d) \text{ x (Boiler Input Heat Capacity)}$ 

 $Q_{ds} = (F_d) x$  (Boiler Input Heat Capacity)

 $Q_{ds} = (0.00871 \text{ dscf/BTU}) \times (20,500,000 \text{ BTU/hr}) = 2,976 \text{ dscfm}$ (60 min/hr)

Corrected Dry Standard Flow Rate for Altitude and 3% Oxygen = Q<sub>dsc</sub>

 $Q_{dsc} = Q_{ds} \times 20.9 \times P_s / [(20.9 - \% O_2) \times P_B]$ 

 $Q_{dsc} = (2,976 \text{ dscfm} \times 20.9 \times 760 \text{ mm Hg}) / [(20.9 - 3) \times 645.57 \text{ mm Hg}]$ 

 $Q_{dsc} = 4,091 dscfm$ 

Total PM<sub>10</sub> Emission Rate =  $\frac{(0.153 \text{ lb/hr}) \times (7000 \text{ gr/lb})}{(4,091 \text{ dscfm}) \times (60 \text{ min/hr})}$ 

 $PM_{10}$  Emission Rate = 0.004 gr/dscf

0.004 gr/dscf < 0.015 gr/dscf Meets Grain Loading Standard

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boiler
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exit Gas Temperature (°F)	600
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	Natural Gas
Heating Value (BTU/scf)	1,020
Product Consumption (scf/hr)	20,098
Wet Standard Stack Flow Rate (wscf/min)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O2 and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	8,330
Stack Velocity (m/s)	14.04
Actual Hours of Operation (hr/yr)	8,760

Criteria Pollutants					Significant	Below	Significant
		Emissions	Emissions	Emissions	Level c	Regulatory	Contribution?
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	C
PM-10 (assume = PM)	7.6	1.53E-01	6.69E-01	1.92E-02	15	yes	no
SO2	0.6	1.21E-02	5.28E-02	1.52E-03	40	yes	no
NOx	100	2.01E+00	8.80E+00	2.53E-01	40	no	no
co	84	1.69E+00	7.39E+00	2.13E-01	100	yes	no
voc	5.5	1.11E-01	4.84E-01	1.39E-02	40	yes	no
Lead	0.0005	1.00E-05	4.40E-05	1.27E-06	0.6	yes	no
Non-Criteria Pollutants with Significant			±/		Significant	Below	Significant
Threshold		Emissions	Emissions	Emissions	Level c	Regulatory	Contribution?
	EF° (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	¢
PM	7.6	1.53E-01	6.69E-01	1.92E-02	25	yes	no
Beryllium	<1.2E-5	ND	ND	ND	0.0004	yes	no
Mercury	0.005.04	5.23E-06	2.29E-05	6.58E-07	0.1	yes	no
Weredry	2.60E-04	0.235-00	2.286-00	0.000-07	0.1	yos	110

PM Grain Loading Standard  Natural Gas	PM Emissions (gr/min) 17.82	Grain Load (gr/dscf @3% O2) 0.004	PM Grain Standard <sup>b</sup> (gr/dscf) 0.015	Meets Standard? yes
Other Pollutants	1	Emissions	Emissions	Emissions
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)
тос	11	2.21E-01	9.68E-01	2.79E-02
HCI	NA	NA	NA	NA
Methane	2.3	4.62E-02	2.02E-01	5.82E-03
CO₂	120,000	2,412	10,564	304
N₂O	2.2	4.42E-02	1.94E-01	5.57E-03

Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling	
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	EL <sup>f</sup> (lb/hr)	Required? <sup>a</sup>	BRC?
Arsenic	2,00E-04	4.02E-06	1.76E-05	5.06E-07	1.50E-06	yes	no
Barium	4.40E-03	8.84E-05	3.87€-04	1.11E-05	0.033	no	yes
Benzene	2,10E-03	4.22E-05	1.85E-04	5,32E-06	8.00E-04	no	yes
Beryllium	<1.2E-5	ND	ND	ND	2.80E-05	no	yes
Benzo(a)pyrene	<1.2E-6	ND	ND	ND	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	NA	NA	NA	NA	2.80E-02	no	yes
Cadmium	1,10E-03	2.21E-05	9.68E-05	2.79E-06	3.70E-06	yes	no
Chromium	1.40E-03	2.81E-05	1.23E-04	3.55E-06	3.30E-02	no	yes
Cobalt	8.40E-05	1.69E-06	7.39E-06	2.13E-07	3.30E-03	no	yes
Copper	8.50E-04	1.71E-05	7.48E-05	2.15E-06	3.33E-01	no	yes
Dibutylphthalate	NA	NA	NA	NA	6.70E-02	no	yes
Dichlorobenzene	1.20E-03	2.41E-05	1.06E-04	3.04E-06	2.00E+01	no	yes
Ethylbenzene	NA	NA	NA	NA	2.90E+01	no	yes
Fluorene	2,80E-06	5.63E-08	2.46E-07	7.09E-09	1.33E-01	no	yes
Formaldehyde	7.50E-02	1.51E-03	6.60E-03	1.90E-04		yes	na
Hexane	1.80E+00	3.62E-02	1.58E-01	4.56E-03		no	yes
Manganese	3.80E-04	7.64E-06	3.35E-05	9.62E-07	3.33E-01	no	yes
Mercury	2.60E-04	5.23E-06	2.29E-05	6.58E-07	3.00E-03	no	yes
Molybdenum	1.10E-03	2.21E-05	9.68E-05	2.79E-06	3.33E-01	na	yes
Napthalene	6.10E-04	1.23E-05	5.37E-05	1.54E-06		no	yes
Nickel	2.10E-03	4.22E-05	1.85E-04	5.32E-06		yes	no
Pentane	2.60E+00	5.23E-02	2.29E-01	6.58E-03	1.18E+02	no	yes
Phenol	NA	NA	NA	NA	1.27E+00	กด	yes
Selenium	<2.4E-5	ND	ND	ND	1.30E-02	no	yes
Toluene	3.40E-03	6.83E-05	2.99E-04	8.61E-06		no	yes
Vanadium	2.30E-03	4.62E-05	2.02E-04	5.82E-06		no	yes
o-Xylene	NA	NA	NA	NA	2.90E+01	no	yes
Zinc	2.90E-02	5.83E-04	2.55E-03	7.34E-05	6.67E-01	no	yes

- Notes:
  (a) IDAPA 58.01.01.210.05(b)
  (b) IDAPA 58.01.01.221.01
  (e) Emission Factors for natural gas combustion are from AP-42 Chapter 1.4 "Natural Gas Combustion". For NOX and CO emission estimates, emission factors for an uncontrolled small boiler was selected.
  (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boiler
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exit Gas Temperature (°F)	500
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	No. 6 Fuel
Heating Value (BTU/gal)	150,000
Product Consumption (gal/hr)	137
Wet Standard Stack Flow Rate (wscf/min)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	8,330
Stack Velocity (m/s)	14.04
Actual Hours of Operation (hr/yr)	8,760
(S) Sulfur Content (Wt%)	0.5
(A) Ash Content (Wt%)	0.93

plackiou baloilleine Plessure (Illin rig)	040.07		(A) Ash Cont	ent (MATA)			0.93
Standard Condition Barometric Pressure (mm Hg)	760.00						
Criteria Pollutants		Potential	Potential	Potential	Significant	Below	Significant
		Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/vr)	Concern? <sup>d</sup>	c
PM-10	5,17 A	6.57E-01	2.88E+00	8.28E-02	15	no	no
SO2	157 S	1.07E+01	4.70E+01	1.35E+00	40	no	yes
NOx	55	7.52E+00	3.29E+01	9.47E-01	40	no	no
co	5	6.83E-01	2.99E+00	8.61E-02	100	ves	no
voc			0.00E+00	0.00E+00	40	yes	no
Lead	1.51E-03	2.06E-04	9.04E-04	2.60E-05	0.6	yes	no
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold		Emissions	Emissions	Contagions	Level <sup>6</sup>	Regulatory	Contribution?
Tillianicio	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	c
РМ	9.19(S)+3.22 S	1,07E+00	4,68E+00	1.35E-01	25	yes	no
Beryllium	2.78E-05	3.80E-06	1.66E-05	4.79E-07	0.0004	yes	no
Mercury	1.13E-04	1.54E-05	6.76E-05	1.95E-06	0.0004	yes	no
·	1,135*04			1.80E-00	U. 1	yes	110
PM Grain Loading Standard		Grain Load	PM Grain				
	PM Emissions	(gr/dscf	Standard b	Meets			
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
No. 6 Fuel	124.59	0.030	0.050	yes			
Other Pollutants		Emissions	Emissions	Emissions			
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)			
NMTOC	1.13	1.54E-01	6.76E-01	1.95E-02			
HCI	0.357	4.88E-02	2.14E-01	6.14E-03			
Methane	0.475	6.49E-02	2.84E-01	8.18E-03			
CO₂	25,000	3,417	14,965	431			
Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling	r ·
TOXIC AII FOIILIAINS	EF® (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	EL <sup>f</sup> (lb/hr)	Required?	BRC?
Arsenic	1.32E-03	1.80E-04	7.90E-04	2.27E-05	1.50E-06	yes	по
Barium	2.57E-03	3.51E-04	1.54E-03	4.43E-05	0.033	no	yes
Benzene	2.14E-04	2.92E-05	1.28E-04	3.69E-06	8.00E-04	no	yes
Beryllium	2.78E-05	3.80E-06	1.66E-05	4.79E-07	2.80E-05	no	no
Benzo(a)pyrene	NA	NA	NA	NA NA	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	· NA	NA.	NA	NA	2.80E-02	no	yes
Cadmium	3.98E-04	5.44E-05	2.38E-04	6.85E-06	3.70E-06	yes	no
Chromium	8.45E-04	1.15E-04	5.06E-04	1.46E-05	3.30E-02	no	yes
Cobalt	6.02E-03	8.23E-04	3.60E-03	1.04E-04	3.30E-03	no	no
Copper	1.76E-03	2.41E-04	1.05E-03	3.03E-05	3.33E-01	no	yes
Dibutylphthalate	NA	NA	NA	NA	6.70E-02	no	yes
Dichlorobenzene	NA	NA	NA	NA	2.00E+01	no	yes
Ethylbenzene	6.36E-05	8.69E-06	3.81E-05	1.10E-06		no	yes
Fluorene	4.47E-06	6.11E-07	2.68E-06	7.70E-08	1.33E-01	no	yes
Formaldehyde	3.30E-02	4.51E-03	1.98E-02	5.68E-04	5.10E-04	yes	no
Hexane	NA	NA	NA	NA	1.20E+01	no	yes
Manganese	3.00E-03	4.10E-04	1.80E-03	5.17E-05	3.33E-01	no	yes
Mercury	1.13E-04	1.54E-05	6.76E-05	1.95E-06	3.00E-03	no	yes
Molybdenum	7.87E-04	1.08E-04	4.71E-04	1.36E-05	3.33E-01	no	yes
Napthalene	1.13E-03	1.54E-04	6.76E-04	1.95E-05	3.33E+00	no	yes
Nickel	8.45E-02	1.15E-02	5.06E-02	1.46E-03	2.70E-05	yes	no
Pentane	NA	NA	NA	NA	1.18E+02	no	yes
Phenol	NA	NA	NA	NA	1.27E+00	no	yes
			4.000.04	1.18E-05	1.30E-02	no	yes
Selenium	6.83E-04	9.33E-05	4.09E-04	1.100-001	1100E OF		
Selenium Toluene	6.83E-04 6.20E-03	9.33E-05 8.47E-04	3.71E-03	1.07E-04	2.50E+01	no	yes
							1 -
Toluene	6.20E-03	8.47E-04	3.71E-03	1.07E-04	2.50E+01 3.00E-03	no	yes

#### Notes:

- Notes:

  (a) IDAPA 58.01.01.210.05(b)

  (b) IDAPA 58.01.01.676

  (c) IDAPA 58.01.01.006.90

  (d) IDAPA 58.01.01.221.01

  (e) Emission Factors (AP-42 Section 1.3 Fuel Oil Combustion):

   Table 1.3-1 (<100 MMBtu/hr) SO<sub>2</sub>, NO<sub>3</sub>, CO, PM

  - Table 1.3-3 (Commercial/institutional/residential combusters) NMTOC, Methane
  - Table 1.3-7 PM10
  - Table 1.3-11 Metals Table 1.3-12 CO<sub>2</sub>
- (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boller
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exit Gas Temperature (°F)	500
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	No. 5 Fuel
Heating Value (BTU/gal)	148,000
Product Consumption (gal/hr)	138.51
Wet Standard Stack Flow Rate (wscf/min)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	8,330
Stack Velocity (m/s)	14.04
Actual Hours of Operation (hr/yr)	8,760
(S) Sulfur Content (Wt%)	0.5
(A) Ash Content (Wt%)	0.93

Criteria Poliutants		Potential	Potential	Potential	Significant	Below	Significant
		Emissions	Emissions	Emissions	Level <sup>a</sup>	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	¢
PM-10	5.17 A	6.66E-01	2.92E+00	8.39E-02	15	no	no
SO2	157 S	1.09E+01	4.76E+01	1.37E+00	40	no	yes
NOx	55	7.62E+00	3.34E+01	9.60E-01	40	no	no
co	5	6.93E-01	3.03E+00	8.73E-02	100	yes	no
voc			0.00E+00	0.00E+00	40	yes	no
Lead	1.51E-03	2.09E-04	9.16E-04	2.64E-05	0.6	yes	по
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold	•	Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	c
РМ	10	1.39E+00	6.07E+00	1.75E-01	25	no	no
Beryllium	2.78E-05	3.85E-06	1.69E-05	4.85E-07	0.0004	yes	no
Mercury	1.13E-04	1.57E-05	6.86E-05	1.97E-06	0.0004	yes	no
·	1,102,01			1.012 00	<u> </u>	,,,,	
PM Grain Loading Standard		Grain Load	PM Grain				
	PM Emissions	(gr/dscf	Standard b	Meets			
	(gr/mln)	@3% O2)	(gr/dscf)	Standard?			
No. 5 Fuel	161.58	0.039	0.050	yes			
Other Pollutants		Emissions	Emissions	Emissions			
	EF* (lb/103 gal)	(lb/hr)	(ton/yr)	(g/s)			
NMTOC	1.13	1.57E-01	6.86E-01	1.97E-02			
HCI	0.357	4.94E-02	2.16E-01	6.23E-03			
Methane	0.475	6.58E-02	2.88E-01	8.29E-03			
CO₂	25,000	3,463	15,167	436			
Toxic Air Pollutants		Fasions	Carlosiana	Coologiana		Modeling	
TOXIC AN FORIGINA	EF* (lb/10 <sup>3</sup> gal)	Emissions (lb/hr)	Emissions (ton/yr)	Emissions (g/s)	EL <sup>f</sup> (lb/hr)	Regulred?	BRC?
Arsenic	1.32E-03	1.83E-04	8.01E-04	2.30E-05	1.50E-06	yes	no
Barlum	2.57E-03	3.56E-04	1.56E-03	4.49E-05	0.033	no	yes
Benzene	2.14E-04	2.96E-05	1.30E-03	3.73E-06	8.00E-04	no	yes
Beryllium	2.78E-05	3.85E-06	1.69E-05	4.85E-07	2.80E-05	no	no
Benzo(a)pyrene	NA	NA	NA	4.00L-07	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	NA NA	NA NA	NA	NA NA	2.80E-02	no	yes
Cadmium	3.98E-04	5.51E-05	2.41E-04	6.95E-06		yes	no
Chromium	8.45E-04	1.17E-04	5.13E-04	1.47E-05	3.30E-02	по	yes
Cobalt	6.02E-03	8.34E-04	3.65E-03	1.05E-04		no	no
Copper	1.76E-03	2.44E-04	1.07E-03	3.07E-05		no	yes
Dibutylphthalate	NA	NA NA	NA NA	NA NA	6.70E-02	no	yes
Dichlorobenzene	NA NA	NA	NA	NA NA	2.00E+01	no	yes
Ethylbenzene	6.36E-05	8.81E-06	3.86E-05	1.11E-06		no	yes
Fluorene	4.47E-06	6.19E-07	2.71E-06	7.80E-08	1.33E-01	no	yes
Formaldehyde	3.30E-02	4.57E-03	2.00E-02	5.76E-04	5.10E-04	yes	no
Hexane	NA	NA NA	NA	NA NA	1.20E+01	no	yes
Manganese	3.00E-03	4.16E-04	1.82E-03	5.24E-05	3.33E-01	no	yes
Mercury	1.13E-04	1.57E-05	6.86E-05	1.97E-06	3.00E-03	no	yes
Molybdénum	7.87E-04	1.09E-04	4.77E-04	1.37E-05	3.33E-01	no	yes
Napthalene	1.13E-03	1.57E-04	6.86E-04	1.97E-05		no	yes
Nickel	8.45E-02	1.17E-02	5.13E-02	1.47E-03	2.70E-05	yes	по
Pentane	NA	NA	NA	NA	1.18E+02	no	yes
Phenol	NA	NA	NA	NA	1.27E+00	no	yes
Selenium	6.83E-04	9.46E-05	4.14E-04	1.19E-05	1.30E-02	no	yes
Toluene	6.20E-03	8.59E-04	3.76E-03	1.08E-04	2.50E+01	no	yes
Vanadium	3.18E-02	4.40E-03	1.93E-02	5.55E-04	3.00E-03	yes	no
o-Xylene	1.09E-04	1.51E-05	6.61E-05	1.90E-06	2.90E+01	no	yes
Zinc	2.91E-02	4.03E-03	1.77E-02	5.08E-04	6.67E-01	no	yes

- Notes:
  (a) IDAPA 58.01.01.210.05(b)
  (b) IDAPA 58.01.01.676
  (c) IDAPA 58.01.01.006.90
  (d) IDAPA 58.01.01.221.01
  (e) Emission Factors (AP-42 Section 1.3 Fuel Oil Combustion):
  - Table 1.3-1 (<100 MMBtu/hr)  $SO_2$ ,  $NO_x$ , CO, PM
  - Table 1.3-3 (Commercial/institutional/residential combusters) NMTOC, Methane

  - Table 1.3-7 PM10 Table 1.3-11 Metals
  - Table 1.3-12 CO<sub>2</sub>
- (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boller
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exlt Gas Temperature (°F)	500
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	No. 4 Fuel
Heating Value (BTU/gal)	146,000
Product Consumption (gal/hr)	140
Wet Standard Stack Flow Rate (wscf/min)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	8,330
Stack Velocity (m/s)	14.04
Actual Hours of Operation (hr/yr)	8,642
(S) Sulfur Content (Wt%)	0.5
(A) Ash Content (Wt%)	0.93

Standard Condition Barometric Pressure (mm Hg)	760.00						
Criteria Pollutants		Potential	Potential	Potential	Significant	Below	Significant
		Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	c
PM-10	5.17 A	6.75E-01	3.0	8.51E-02	15	no	no
SO2	150 S	1.05E+01	46.1	1.33E+00	40	no	yes
NOx	20	2.81E+00	12.3	3.54E-01	40	no	no
[CO_	5	7.02E-01	3.1	8.85E-02	100	yes	no
voc			0.0		40	yes	no
Lead	1.51E-03	2,12E-04	0.0	2.67E-05	0.6	yes	no
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold		Emissions	Emissions	<b>Emissions</b>	Level <sup>c</sup>	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	c
РМ	7	9.83E-01	4.31E+00	1.24E-01	25	no	no
Beryllium	2.78E-05	3.90E-06	1.71E-05	4.92E-07	0.0004	yes	no
Mercury	1.13E-04	1.59E-05	6.95E-05	2,00E-06	0.1	yes	no
PM Grain Loading Standard		Grain Load	PM Grain				
_	PM Emissions	(gr/dscf	Standard <sup>b</sup>	Meets			
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
No. 4 Fuel	114.65	0.028	0.050	yes			
Other Pollutants		Emissions	Emissions	Emissions	İ		
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)			
имтос	0.34	4.77E-02	2,09E-01	6.02E-03			
IHCI	0.357	5.01E-02	2,19E-01	6.31E-03			
Methane	0.216	3.03E-02	1.33E-01	3.82E-03			
co₂	25,000	3,510	15,375	442			
Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling	
TORIO AII I ONGLAMA	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	EL <sup>f</sup> (lb/hr)	Required?	BRC?
Arsenic	1.32E-03	1.85E-04	8.12E-04	2.34E-05	1.50E-06	yes	no
Barium	2.57E-03	3.61E-04	1.58E-03	4.55E-05	0.033	no	yes
Benzene	2.14E-04	3.00E-05	1.32E-04	3.79E-06	8.00E-04	no	yes
Beryllium	2.78E-05	3.90E-06	1.71E-05	4.92E-07	2.80E-05	no	no
Benzo(a)pyrene	NA	NA	NA	NA	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	NA	NA	NA	NA	2.80E-02	no	yes
Cadmium	3.98E-04	5.59E-05	2.45E-04	7.04E-06	3.70E-06	yes	no
Chromium	8,45E-04	1.19E-04	5.20E-04	1.49E-05	3.30E-02	no	yes
Cobalt	6.02E-03	8.45E-04	3.70E-03	1.07E-04	3.30E-03	no	no
Copper	1.76E-03	2.47E-04	1.08E-03	3.11E-05		no	yes
Dibutylphthalate	NA	NA	NA	NA	6.70E-02	no	yes
Dichlorobenzene	NA	NA	NA	NA 1 105 00	2.00E+01	no	yes
Ethylbenzene	6.36E-05	8.93E-06	3.91E-05	1.13E-06		no	yes
Fluorene	4.47E-06	6.28E-07	2.75E-06	7.91E-08	1.33E-01	no	yes
Formaldehyde	3.30E-02	4.63E-03	2.03E-02		5.10E-04	yes	no
Hexane	NA	NA A date oa	NA 4 osta oo	NA E 24 E 0 E	1.20E+01	no	yes
Manganese	3.00E-03	4.21E-04	1.85E-03	5.31E-05 2.00E-06	3.33E-01	no	yes
Mercury	1.13E-04 7.87E-04	1.59E-05 1.11E-04	6.95E-05 4.84E-04	1.39E-05		no no	yes
Molybdenum Napthalene	7.87E-04 1.13E-03	1.11E-04 1.59E-04	4.84E-04 6.95E-04	2.00E-05	3.33E+00	no	yes yes
Nickel <sup>g</sup>	8.45E-02	1.19E-02		1.47E-03	2.70E-05	yes	no
Pentane	8.45E-02 NA	1.19E-02 NA	5.20E-02 ₹ NA	NA	1.18E+02	no	yes
Phenol	NA NA	NA NA	NA NA	NA NA	1.10E+02	no	yes
Selenium	6.83E-04	9.59E-05	4.20E-04	1.21E-05		no	yes
Toluene	6.20E-03	8.71E-04	3.81E-03	1.10E-04		no	yes
Vanadium	3.18E-02	4.47E-03	1.96E-02	5.63E-04		yes	no
o-Xylene	1.09E-04	1.53E-05	6.70E-05	1.93E-06		no	yes
Zinc	2.91E-02	4.09E-03	1.79E-02	5.15E-04		no	yes
E110	, _ VL		02	J11.000 0 1	-10. m 31		

- Notes:
  (a) IDAPA 58.01.01.210.05(b)
  (b) IDAPA 58.01.01.676
  (c) IDAPA 58.01.01.006.90
  (d) IDAPA 58.01.01.221.01
  (e) Emission Factors (AP-42 Section 1.3 Fuel Oil Combustion):
  - Table 1.3-1 (<100 MMBtu/hr) SO<sub>2</sub>, NO<sub>x</sub>, CO, PM
  - Table 1.3-3 (Commercial/Institutional/residential combusters) NMTOC, Methane
  - Table 1.3-7 PM10
  - Table 1.3-11 Metals
  - Table 1.3-12 CO<sub>2</sub>
- (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boiler
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exit Gas Temperature (°F)	500
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	Fuel Oll Max
Heating Value (BTU/gal)	150,000
Product Consumption (gal/hr)	137
Wet Standard Stack Flow Rate (wscf/min)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/mln)	8,330
Stack Velocity (m/s)	14.04
Actual Hours of Operation (hr/yr)	8,642 (g
(S) Sulfur Content (Wt%)	0.5
(A) Ash Content (Wt%)	0.93

Criteria Pollutants		Potential	Potential	Significant	Below	
	Potential	Emissions	Emissions	Level c	Regulatory	Significant
	Emissions (lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	Contribution? <sup>c</sup>
PM-10	6.75E-01	3.0	8.51E-02	15	no	no
SO2	1.09E+01	47.6	1,37E+00	40	no	yes
NOx	7.62E+00	33.4	9.60E-01	40	no	no
co	7.02E-01	3.1	8.85E-02	100	yes	no
voc	0.00E+00	0.0	0.00E+00	40	yes	no
Lead	2.12E-04	0.0	2.67E-05	0.6	yes	no
Non-Criteria Pollutants with Significant				Significant	Below	

PM Grain Loading Standard	Grain Load	PM Grain				
Mercury	1.59E-05	6.95E-05	2.00E-06	0.1	yes	no
Beryllium	3.90E-06	1.71E-05	4.92E-07	0.0004	yes	no
PM	1.39E+00	6.07E+00	1.75E-01	25	no	no
	Emissions (lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern? <sup>d</sup>	Contribution?°
Threshold		Emissions	Emissions	Level °	Regulatory	Significant
Non-Criteria Pollutants with Significant				Significant	Below	

	(gr/dscf @3% O2)		
Fuel Oil Max	3.95E-02	0.050	yes
Other Pollutants		Emissions	Emissions
	Emissions (lb/hr)	(ton/yr)	(g/s)
NMTOC	1.57E-01	6.86E-01	1.97E-02
HCI	5.01E-02	2.19E-01	6.31E-03
Methane	6.58E-02	2.88E-01	8.29E-03
CO₂	3.51E+03	15,375	442

Toxic Air Poliutants		Emissions	Emissions		Modeling	
	Emissions (lb/hr)	(ton/yr)	(g/s)	ELf (lb/hr)	Required?	BRC?
Arsenic	1.85E-04	8.12E-04	2.34E-05	1.50E-06	yes	no
Barium	3.61E-04	1.58E-03	4.55E-05	0.033	no	yes
Benzene	3.00E-05	1.32E-04	3.79E-06	8.00E-04	по	yes
Beryllium	3.90E-06	1,71E-05	4.92E-07	2.80E-05	по	no
Benzo(a)pyrene	0.00E+00	NA	NA	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	0.00E+00	NA	NA	2.80E-02	no	yes
Cadmium	5.59E-05	2,45E-04	7.04E-06	3.70E-06	yes	no
Chromium	1.19E-04	5,20E-04	1,49E-05	3,30E-02	no	yes
Cobalt	8.45E-04	3.70E-03	1.07E-04	3.30E-03	no	no
Copper	2,47E-04	1.08E-03	3.11E-05	3.33E-01	no	yes
Dibutylphthalate	0.00E+00	NA	NA	6.70E-02	no	yes
Dichlorobenzene	0.00E+00	NA	NA	2.00E+01	no	yes
Ethylbenzene	8.93E-06	3,91E-05	1.13E-06	2.90E+01	no	yes
Fluorene	6.28E-07	2.75E-06	7.91E-08	1.33E-01	no	yes
Formaldehyde	4.63E-03	2.03E-02	5,84E-04	5.10E-04	yes	no
Hexane	0.00E+00	NA	NA	1.20E+01	no	yes
Manganese	4.21E-04	1.85E-03	5.31E-05	3.33E-01	no	yes
Mercury	1.59E-05	6.95E-05	2.00E-06	3.00E-03	no	yes
Molybdenum	1.11E-04	4.84E-04	1.39E-05	3.33E-01	no	yes
Napthalene	1.59E-04	6.95E-04	2.00E-05	3.33E+00	no	yes
Nickel	1.19E-02	5.20E-02	1,47E+03	2.70E-05	yes	no
Pentane	0.00E+00	NA	NA .	1.18E+02	по	yes
Phenol	0.00E+00	NA	NA	1.27E+00	no	yes
Selenium	9.59E-05	4.20E-04	1.21E-05	1.30E-02	по	yes
Toluene	8.71E-04	3.81E-03	1.10E-04	2.50E+01	no	yes
Vanadium	4.47E-03	1.96E-02	5.63E-04	3.00E-03	yes	по
o-Xylene	1.53E-05	6.70E-05	1.93E-06	2.90E+01	no	yes
Zinc	4.09E-03	1.79E-02	5.15E-04	6.67E-01	no	yes

- Notes:
  (a) IDAPA 58.01.01.210.05(b)
  (b) IDAPA 58.01.01.676
  (c) IDAPA 58.01.01.006.90
  (d) IDAPA 58.01.01.221.01
  (e) Emission Factors: Maximum from AP-42 Section 1.3 Fuel Oil Combustion for fuel oils No. 4 throgh 6
  (f) IDAPA 58.01.01.585 and 586
  (d) Limit on hours of operation only used for calculating As emission rate, all other emission rates assum (g) Limit on hours of operation only used for calculating As emission rate, all other emission rates assume unlimited hours of operation. NA: Not Available

Combustion Source Characteristics	
Combustion Unit ID	CB500 Boller
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,000
Stack Height (ft)	52.00
Stack Height (m)	15.85
Stack Diameter (ft)	1.96
Stack Diameter (m)	0.60
Exit Gas Temperature (°F)	500
Exit Gas Temperature (K)	533.15
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00
Wet Standard Stack Flow Rate (wscf/mln)	3,625
Dry Standard Stack Flow Rate (dscf/min)	2,976
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	4,091
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	8,330
Stack Velocity (m/s)	14.04

Fuel Specific Characteristics	Waste Oil
Heating Value (BTU/gal)	150,000
Product Consumption (gal/hr)	137
Fuel Density (lb/gal)	7.41
Actual Hours of Operation (hr/yr)	8,760
(S) Sulfur Content (Wt%)	0.5
(A) Ash Content (Wt%)	0.2
(L) Lead Content (Wt%)	0.01
(C) Chlorine Content (Wt%)	0.67
Arsenic (ppm)	1
Cadmlum (ppm)	0.4
Chromium (ppm)	0.3

Stack Velocity (m/s)	14.04						
Criteria Pollutants		Potential	Potential	Potential	Significant	Below	Significant
		Emissions	Emissions	Emissions	Level®	Regulatory	Contribution?
	EF° (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/vr)	(g/s)	(ton/yr)	Concern?d	c
PM-10	51 A	1.39E+00	6.1	1.76E-01	15	no	no
SO2	147 S	1.00E+01	44.0	1.27E+00	1	no	yes
NOx	19	2.60E+00	11.4	3.27E-01	40	no	no
CO	5	6.83E-01	3.0	8.61E-02		yes	no
VOC	1	1.37E-01	0.6	1.72E-02	40	yes	no
Lead	55 L	7.52E-02	0.3	9.47E-03	0.6	no	no
Non-Criteria Pollutants with Significant	1				Significant	Below	Significant
Threshold					, .	Regulatory	Contribution
i nresnoia	EF <sup>a</sup> (lb/10 <sup>3</sup> gal)	Emissions	Emissions	Emissions	Level <sup>c</sup>		CONTINUATION
		(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	
PM	64 A	1.75E+00	7.66E+00	2.20E-01	25	no	no
Beryllium	BDL	NA	NA	NA .	0.0004	yes	no
Mercury	1.13E-04	1,54E-05	6.76E-05	1.95E-06	0,1	yes	no
PM Grain Loading Standard		Grain Load	PM Grain				
	PM Emissions	(gr/dscf	Standard b	Meets			
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
Waste Oll	204.06	0.0499	0.050	yes			
Other Pollutants	i	Emissions	Emissions	Emissions			
Julei Politiants	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)			
TOC	Er (RU/TO gal)	1.37E-01	5.99E-01	1.72E-02			
HCI	66 C	6.04E+00	2,65E+01	7.61E-01			
Methane	0.47						
	• • • • • • • • • • • • • • • • • • • •	6.42E-02	2.81E-01	8.09E-03			
CO <sub>2</sub>	22,000	3,007	13,169	379			
Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling	
	EF <sup>e</sup> (lb/10 <sup>3</sup> gal)	(lb/hr)	(ton/yr)	(g/s)	EL <sup>f</sup> (lb/hr)	Required? <sup>a</sup>	BRC?
Arsenic	7.41E-03	1.01E-03	4.44E-03	1.28E-04	1.50E-06	yes	no
Barium	4.40E-06	6.01E-07	2.63E-06	7.58E-08	0.033	no	yes
3enzene	2.14E-04	2.92E-05	1.28E-04	3.69E-06		no	yes
Beryllium	ND	NA	NA	NA	2.80E-05	no	yes
Benzo(a)pyrene	ND	NA	NA	NA	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	ND	NA	NA	NA	2.80E-02	no	yes
Cadmium	2.96E-03	4.05E-04	1.77E-03	5.10E-05	3.70E-06	yes	no
Chromium	2,22E-03	3.04E-04	1.33E-03	3.83E-05	3.30E-02	no	yes
Cobalt	2.10E-04	2.87E-05	1.26E-04	3.62E-06	3.30E-03	no	yes
Copper	1.76E-03	2.41E-04	1.05E-03	3.03E-05	3.33E-01	no	yes
Dibutylphthalate	3,40E-05	4.65E-06	2.04E-05	5.85E-07	6.70E-02	no	yes
Dichlorobenzene	ND	NA	NA	NA	2.00E+01	no	yes
Ethylbenzene	6.36E-05	8.69E-06	3,81E-05	1,10E-06	2.90E+01	no	yes
luorene	4.47E-06	6.11E-07	2.68E-06	7.70E-08	1.33E-01	no	yes
Formaldehyde	3.03E-02	4.14E-03	1.81E-02	5.22E-04	5.10E-04	ves	no
Hexane	1.80E-03	2,46E-04	1.08E-03	3.10E-05	1,20E+01	no	yes
Manganese	6.80E-02	9.29E-03	4.07E-02	1.17E-03	3.33E-01	กด	yes
Mercury	1.13E-04	1.54E-05	6.76E-05	1.95E-06	3.00E-03	no	yes
Molybdenum	1.10E-06	1.50E-07	6.58E-07	1.89E-08	3.33E-01	no	yes
Napthalene	9.20E-05	1.26E-05	5.51E-05	1.58E-06	3.33E+00	no	yes
Vickel	1.10E-02	1.50E-03	6.58E-03	1.89E-04	2.70E-05	yes	no
Pentane	2.60E-03	NA	NA	NA NA	1.18E+02	yes	l no
Phenol	2.80E-05	NA.	NA NA	NA I	1.27E+00	ves	no
Selenium	BDL	NA	NA.	NA NA	1.30E-02	no	yes
oluene	6.20E-03	8.47E-04	3.71E-03	1.07E-04	2.50E+01	no	yes
/anadium	2.30E-06	3.14E-07	1.38E-06	3.96E-08	3.00E-03	no no	yes
o-Xylene	1.09E-04	1.49E-05	6.52E-05	1.88E-06	2.90E+01	no	yes
Zinc	2.91E-02	3,98E-03	1.74E-02	5.01E-04	6.67E-01	no	yes
M10	2.0 IL-UE	0.001-00	111 TL-V4	V.V (L-04	0.01 E-01	TIV	yas

- Notes:
  (a) IDAPA 58.01.01.210.05(b)
  (b) IDAPA 58.01.01.676
  (c) IDAPA 58.01.01.006.90
  (d) IDAPA 58.01.01.221.01
  (e) Emission Factors (AP-42 Section 1.3 Fuel Oil Combustion):
   Table 1.3-1 (<100 MMBtu/hr) SO<sub>2</sub>, NO<sub>x</sub>, CO, PM
  (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics Combustion Unit ID	CB500 Boller
Manufacturer	Cleaver Brooks
Model	CB500
Input Heat Capacity (BTU/hr)	20,500,00
Stack Height (ft)	52.0
Stack Height (m)	15.8
Stack Diameter (ff)	1.9
tack Dlameter (m)	0.6
xit Gas Temperature (°F)	50
Ext Gas Temperature (K)	533,1
Standard Condition Temperature (K)	273.1
Blackfoot Barometric Pressure (mm Hg)	645.5
Standard Condition Barometric Pressure	
(mm Hg)	760.0

Fuel Specific Characteristics	Natural Gas	Waste Oil
Healing Value (BTU/scf)	1,020	1,122,000
Product Consumption (scf/hr)	20,098	18
Product Consumption (gat/hr)	150,333	136.67
Fuel Density (lb/gal)	NA	7.41
Wet Standard Stack Flow Rate (wscf/min)	3,625	3,526
Dry Standard Stack Flow Rate (dscf/mln)	2,976	3,140
Dry Standard Flow Rate Corrected for 3% O2 and		
Altitude (dacfimin)	4,091	4,316
Fd (dscf stack gas/BTU)	0.00871	0.00919
Fw (wscf stack gas/BTU)	0.01061	0.01032
Stack Flow	8,330	8,102
Stack Velocity (m/s)	14.04	13.66
Actual Hours of Operation (hr/yr)	3,283	5,477

Fuel Composition	Natural Gas	Waste Oil
% Ash	NA	0.2
% Suffur	NA	0.5
% Lead	NA	0.01
% Chlorine	NA	0.67
Arsenic (ppm)	NA	1
Cadmium (ppm)	NA	0.4
Chromium (ppm)	NA	0.3

(mm Hg)	760.00	1												
Criteria Pollutants	N	atural Gas Co	ombustion			Waste Oil C	ombustion		Maximum	Ave	erage			
		Potential	Potential	Potential		Potential	Potential	Potenlial	Potential	Limited	Limited		Below	
	1	Emissions	Emissions	Emissions	l <u>.</u>	Emissions	Emissions	Emissions	Emissions	Emissions	Emissions	Significant	Regulatory	Significant
	EFf (\$5/10 <sup>9</sup> scf)	(it)/hr)	(ton/yr)		Ef <sup>e</sup> (ib/10 <sup>3</sup> gal)		(ton/yr)	(g/s)	(torvyr)	(g/s)	(ton/yr)	Level <sup>a</sup> (ton/yr)		
PM-10 (for NG assume = PM)	7.6		6.69E-01			1.39E+00	6.11E+00		6.11			15		no
SO2	0.6		5.28E-02			1.00E+01	4.40E+01	1.27E+00			27.53	40		no
NOx	100		8.80E+00			2.60E+00	1.14E+01	3.27E-01	11.37		10.41	40		no
co	84	1.69E+00	7.39E+00			6.83E-01	2.99E+00		7.39		4.64	100	yes	no
VOC (assumed equal to TOC for oil)	5.5		4.84E-01			1.37E-01	5.99E-01	1.72E-02			0.56 0.21	40		no
Lead	0.0005		4.40E-05	1.27E-06		7,52E-02	3.29E-01	9.47E-03	L			0.6	no	no
Non-Criteria Pollutants with	Į N	atural Gas Co				Wasta Oil C			Meximum		rage	ľ	D . t	
Significant Threshold	1	Potential	Potential	Potential	1	Potential	Potential	Potential	Potential	Limited	Limited	CI161	Below	0///
	4	Emissions	Emissions	Emissions		Emissions	Emissions	Emissions	Emissions	Emissions	Emissions	Significant	Regulatory	Significant
<b>I</b>	EF*(lb/10° scf)	(lb/hr)	(torVyr)		Ef* (lb/103 gal)		(ton/yr)	(g/s)	(ton/yr)	(g/s)	(ton/yr)	Level® (ton/yr)		
РМ	7.6		6.69E-01			1.75E+00	7.66E+00				5.04	25		no
Beryllium	<1.2E-5	ND 5.23E-06	ND 2.29E-05	ND C COC AT	BDL	NO NO	ND 0.70E.0E	ND	ND O ZOE OF	ND	ND E DOCDE OF	0.0004	yes	no
Mercury	2.60E+04	5.23E-06		6.58E-07	1.13E-04	1.54E-05	6.76E-05	1.95E-06	6.76E-05	1.463E-06	5,0868E-05	0.1	yes	no
PM Grain Loading Standard		Grain Load	PM Grain											
	PM Emissions	(gr/dscf	Standard	Meets	!									
	(gr/mln)	@3% O2}	(gr/dscf)	Standard?	i									
Natural Gas	17.82	0.004	0.015	,	l									
Waste Oil	204.06	0.0473	0.050	yes	l							_		
Other Pollutants	N	atural Gas Co	mbustion			Waste Oll C	ombustion		Maximum	Ave	наде			
		Potential	Potential	Potential		Potential	Potential	Potential	Potential	Limited	Limited	1		
		Emissions	Emissions	Emissions		Emissions	Emissions	Emissions	Emissions	Emissions	Emissions			
	EF (lb/10° scf)	(lb/hr)	(ton/yr)		E(° (lb/10° gal)	(lb/hr)	(toɪv'yr)	(g/s)	(torvyr)	(torvyr)	(g/s)	1		
TOC	11	2.21E-01	9.68E-01			1.37E-01	5.99E-01	1.72E-02	9.68E-01	0.737	2.121E-02			
HCI	NA	NA	NA	NA	66 CI	6.04	26.47	0.76	2.65E+01	1.65E+01	4.761E-01			
Melhane	2.3	4.62E-02	2.02E+01	5.82E-03		6.42E-02	2.81E-01	8.09E-03		0.252	7.243E-03			
CO <sub>2</sub>	120,000		10,564			3,007	13,169	379			3.507E+02	1		
		4 407 00		E ETE 00				814	1 045 04	7 000 00	0.0000 00			

N₂O													
1430	2.2	4.42E-02	1.94E-01	5.57E-03	ΝA	NΑ	NA	NA	1.94E-01	7.26E-02	2.088E-03		
Toxic Air Poliutants	Natural	Gas Combus	tion	Was	te Oil Comb	ustion	Maxin	านกา	Aver	age			
	1	Potential	Potential		Potential	Potential	Potential	Potential	Limited	Limited	i		
	Ei,	Emissions	Emissions	Ef⁴	Emissions	Emissions	Emissions	Emissions		Emissions	Ι.	Modeling	
	(lb/10 <sup>8</sup> scf)	(lb/hr)	(g/s)	(80/10 <sup>3</sup> ga)	(lb/hr)	(g/s)	(ton/yr)	(g/s)	(lb/hr)	(g/s)	ELh (Rx/hr)	Required? <sup>4</sup>	BRC?
Arsenic <sup>d</sup>	2.00E-04	4.02E-06	5.06E-07	7.41E-03	1.01E-03	1.28E-04	4.44E-03	1.28E-04	6.35E-04	8.00E-05	1.50E-06	yes	no
arium	4.40E-03	8.84E-05	1.11E-05	4.40E-06	6.01E-07	7.58E-08	3.87E-04	1.11E-05		4.22E-06	0.033	no	yes
enzene	2.10E-03	4.22E-05	5.32E-06	2.14E-04	2.92E-05	3.69E-06	1.85E-04	5.32E-06	3.41E-05	4.30E-06	8.00E-04	no	yes
Beryllium	<1.2E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.80E-05	no	yes
Benzo(a)pyrene	<1.2E-6	ND	ND	ND	ND	ND	ND	NĐ	ND	ND	2.00E-06	no	yes
Bls (2-ethylhexyl)phthalate	NA	NA	NA	ND	ND	NO	ND	ND	ND	ND	2.80E+02	no	yes
Cadmium <sup>d</sup>	1.10E-03	2.21E-05	2.79E-06	2.96E-03	4.05E-04	5.10E-05	1.77E-03	5.10E-05	2.62E-04	3.30E-05	3.70E-06	y68	no
Chromlum <sup>d</sup>	1.40E-03	2.81E-05	3.55E-06	2.22E-03	3.04E-04	3.83E-05	1.33E-03	3.83E-05	2.01E-04	2.53E-05	3.30E-02	no	yes
Cobalt	8.40E-05	1.69E-06	2.13E-07	2.10E-04	2.87E-05	3.62E-06	1.26E+04	3.62E-06	1.86E-05	2.34E-06	3.306-03	no	yes
Copper	6.50E-04	1.71E-05	2.15E-06	1.76E-03	2.41E-04	3.03€-05	1.05E-03	3.03E-05	1.57E-04	1.98E-05	3.33E-01	no	yes
Dibutylphthalate	NA.	NA	NA	3.40E-05	4.65E-06	5.85E-07	2.04E-05	5.85E-07	2.90E-06	3.66E-07	6.70E-02	no ·	yes
Olchlorobenzene	1.20E-03	2.41E-05	3.04E-06	ND	ND	ND	1.06E-04	3.04E+06	9.04E+06	1.14E-06	2.00E+01	no	yes
Ethylbenzene	NA	NA	NA	6.36E-05	8.69E-06	1.10E-06	3.81E-05	1.10E-06	5.43E-06	6.84E-07	2.90E+01	no	yes
Fluorene	2.80E-06	5.63E-08	7.09E-09	4.47E-06	6.11E-07	7.70E-08	2.68E-06	7.70E-08	4.03E-07	5.08E-08	1.33E-01	no	yes
Formaldehyde	7.50E-02	1.51E-03	1.90E-04	3.03E-02	4.14E-03	5.22E-04	1.81E-02	5.22E-04	3.15E-03	3.97E-04	5.10E-04	yes	no
Hexane	1.80E+00	3.62E-02	4.56E-03	1.80E-03	2.46E-04	3.10E-05	1.58E-01	4.56E-03	1.37E-02	1.73E-03	1.20E+01	no	yes
Manganese	3.80E-04	7.64E-06	9.62E-07	6.80E-02	9.29E-03	1.17E-03	4.07E-02	1.17E-03	5.81E-03	7.32E-04	3.33E-01	no	yes
Mercury	2.60E-04	5.23E-06	6.585-07	1.13E-04	1.54E+05	1.95E+06	6.76E-05	1.95E-06	1.16E-05	1.46E-06	3.00E+03	no	yes
Molybdenum	1.10E-03	2.21E-05	2.79E-06	1.10E-06	1.50E-07	1.89€-08	9.68E-05	2.79E-06	8.38E-06	1.06E-06	3.33E-01	no	yes
Napthalene	6.10E-04	1.23E-05	1.54E-06	9.20E-05	1.26E-05	1.58E-06	5.51E-05	1.58E-06	1.25E-05	1.57E-06	3.33E+00	no	yes
Nickel	2.10E-03	4.22E-05	5.32E-06	1.10E-02	1.50E-03	1.89E-04	6.58E-03	1.89E-04	9.56E-04	1.20E-04	2.70E-05	yes	no
Pentane	2.60E+00	5.23E-02	6.58E-03	2.60E-03	3.55E-04	4.48E-05	2.29E-01	6.58E-03	1.98E-02	2.50E-03	1.18E+02	no	yes
Phenol	NA	NA	NA	2.80E-05	3.83E-06	4.82E-07	1.68E-05	4.82E-07	2.39E-06	3.01E-07	1.27E+00	no	yes
Selenium	<2.4E-5	ND	МĐ	BDL	ND	ND	ND	ND	ND	ND	1.30E-02	no	yes
Toluene	3.40E-03	6.83E-05	8.61E-06	6.20E-03	8.47E-04	1.07E-04	3.71E-03	1.07E-04	5.55E-04	7.00E-05	2.50E+01	no	yes
Vanadium	2.30E-03	4.62E-05	5.82E-06	2.30E-06	3.14E-07	3.96E-08	2.02E-04	5.82E-06	1.75E-05	2.21E-06	3.00E-03	no	yes
o-Xylene	NA	NA	NA	1.09E-04	1.49E-05	1.88E-06	6.52E-05	1.88E-06	9.30E-06	1.17E-06	2.90E+01	no	yes
Zinc	2.90E-02	5.83E-04	7.34E-05	2.91E-02	3.98E-03	5.01E+04	1.74E-02	5.01E+04	2.70E-03	3.41E-04	6.67E-01	no	yes

shaded cells represent values used by DEQ in calculations to support PTC 011-00023. Emission factors not listed in AP-42.

Notes:
(a) IDAPA 58.01.01.210.05(b)
(b) IDAPA 58.01.01.676
(c) IDAPA 58.01.01.00
(d) The Emission Factors for waste oil combustion were estimated for arsenic, chromium, and cadmium based on the assumption that 100% of the metal in the liquid would be present in the combustion off-pas

<sup>(</sup>d) The Emission Factors for waste oil combustion were estimated for arsenic, chromium, and cadmium based on the assumption that 100% of the metal in the liquid would be present in the combustion off-gas.

(e) Emission Factors for waste oil combustion (unless otherwise noted) are from AP-42 Chapter 1.11 "Waste Cil Combustion". Emission Factors for small boilers were used when available, otherwise values for space heaters with atomizing burners were used.

(f) Emission Factors for natural gas combustion are from AP-42 Chapter 1.4 "Natural Gas Combustion". For NOX and CO emission estimates, emission factors for an uncontrolled small boiler were selected.

(g) IDAPA 58.01.01.221.01

(h) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	CB350 Boiler
Manufacturer	Cleaver Brooks
Model	CB350
Input Heat Capacity (BTU/hr)	14,900,000
Stack Height (ft)	29.67
Stack Height (m)	9.04
Stack Diameter (ft)	1.67
Stack Diameter (m)	0.508
Exit Gas Temperature (°F)	260
Exit Gas Temperature (K)	399.82
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	Natural Gas
Heating Value (BTU/scf)	1,020
Product Consumption (scf/hr)	14,608
Wet Standard Stack Flow Rate (wscf/min)	2,635
Dry Standard Stack Flow Rate (dscf/min)	2,163
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/min)	2,973
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	4,540
Stack Velocity (m/s)	10.57
Actual Hours of Operation (hr/yr)	8,760

Blackfoot Barometric Pressure (mm Hg) Standard Condition Barometric Pressure (mm Hg)	645.57 760.00						
Criteria Pollutants					Significant	Below	Significant
Ontella Follutanta		Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	0
PM-10 (assume = PM)	7.6	1.11E-01	4.86E-01	1,40E-02		yes	no
SO2	0.6	8.76E-03	3.84E-02	1.10E-03		yes	no
NOx	100	1.46E+00	6.40E+00		40	no	no
co	84	1.23E+00	5.37E+00	1.55E-01	100	yes	no
voc	5.5	8.03E-02	3.52E-01	1.01E-02	40	yes	no
Lead	0.0005	7.30E-06	3.20E-05	9.20E-07	0.6	yes	no
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold		Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	G
PM	7.6	1.11É-01	4.86E-01	1.40E-02	25	yes	no
Beryllium	<1.2E-5	ND	ND	ND	0.0004	yes	no
Mercury	2.60E-04	3.80E-06	1.66E-05	4.79E-07	0.1	yes	no
PM Grain Loading Standard	•	Grain Load	PM Grain		1		
•	PM Emissions	(gr/dscf	Standard b	Meets			
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
Natural Gas	12.95	0.004	0.015	yes	1		
Other Pollutants		Emissions	Emissions	Emissions	i		
Other I Guatants	EF° (lb/10° scf)	(lb/hr)	(ton/yr)	(g/s)	1		
тос	11	1.61E-01	7.04E-01	2.02E-02	1		
HCI	NA	NA	NA	NA			
Methane	2.3	3,36E-02	1.47E-01	4.23E-03	1		
CO <sub>2</sub>	120,000	1,753	7,678	221	1		
N₂O	2.2	3,21E-02	1.41E-01	4.05E-03			
Toxic Air Pollutants		Emissions		Emissions	1 	Modeling	<del>,</del>
		l-missions	Emissions			Modelling	
	CE6 (IP (406 225)				EL CONTRACT	-	BBC2
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	EL <sup>1</sup> (lb/hr)	Required?a	BRC?
Arsenic	2.00E-04	(lb/hr) 2.92E-06	(ton/yr) 1.28E-05	(g/s) 3.68E-07	1.50E-06	Required?a yes	no
Arsenic Barium	2.00E-04 4.40E-03	(lb/hr) 2.92E-06 6.43E-05	(ton/yr) 1.28E-05 2.82E-04	(g/s) 3,68E-07 8.10E-06	1.50E-06 0.033	Required? <sup>a</sup> yes no	no yes
Arsenic Barium Benzene	2.00E-04 4.40E-03 2.10E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04	(g/s) 3.68E-07 8.10E-06 3,87E-06	1.50E-06 0.033 8.00E-04	Required? <sup>a</sup> yes no no	no yes yes
Arsenic Barium Benzene Beryllium	2.00E-04 4.40E-03 2.10E-03 <1.2E-5	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND	1.50E-06 0.033 8.00E-04 2.80E-05	Required? <sup>a</sup> yes no no no	no yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene	2.00E-04 4.40E-03 2.10E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04	(g/s) 3.68E-07 8.10E-06 3,87E-06	1.50E-06 0.033 8.00E-04	Required? <sup>a</sup> yes no no	no yes yes yes yes
Arsenic Barium Benzene Beryllium	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02	Required?a yes no no no no	no yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene BIs (2-ethylhexyl)phthalate	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06	Required?a yes no no no no no no no	no yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA 1.61E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA 2.02E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06	Required? <sup>a</sup> yes no no no no no no yes	no yes yes yes yes yes no
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 6.96E-05 5.37E-06 5.44E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-02 3.30E-03 3.33E-01	Required? <sup>a</sup> yes no no no no no no yes no	no yes yes yes yes no yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03 8.40E-05 8.50E-04	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-08 NA	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 5.37E-06 5.44E-05 NA	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-02 3.30E-03 3.33E-01 6.70E-02	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03 8.40E-05 8.50E-04 NA 1.20E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 1.75E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 NA 7.68E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-02 3.30E-03 3.33E-01 6.70E-02 2.00E+01	Required? <sup>a</sup> yes no no no no no no no no no no no no no	no yes yes yes yes no yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03 8.40E-05 8.50E-04 NA 1.20E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-08 1.24E-05 NA	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 7.68E-05	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-08 3.30E-03 3.33E-01 6.70E-02 2.00E+01 2.90E+01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-08 1.24E-05 NA 4.09E-08	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 7.68E-05 NA 1.79E-07	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 1.40E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA 1.61E-05 2.05E-06 1.23E-08 1.75E-05 NA 1.75E-05 NA 4.09E-08 1.10E-03	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 7.68E-05 NA 1.79E-07 4.80E-03	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 3.70E-06 3.30E-02 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryillium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05 NA 1.75E-05 NA 1.76E-03 2.63E-02	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 5.37E-06 5.44E-05 NA 7.68E-05 NA 1.79E-07 4.80E-03 1.15E-01	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 3.70E-06 3.30E-02 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryillium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 4.09E-08 1.16E-03 2.63E-02 5.55E-06	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 6.96E-05 5.37E-06 5.44E-05 NA 7.68E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06	(ton/yr)  1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-08 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-08 3.30E-02 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.30E-03	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 7.68E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05 7.04E-05	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-02 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.03E-03 3.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03 6.10E-04	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05 8.91E-06	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05 7.04E-05	(g/s) 3.68E-07 8.10E-08 3.67E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-08 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.00E-03 3.33E-01 3.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene Nickel	2.00E-04 4.40E-03 2.10E-03 <1.2E-6 NA 1.10E-03 1.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03 6.10E-04 2.10E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05 8.91E-08	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 7.04E-05 3.90E-05 1.34E-04	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06 3.87E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.03E-03 3.33E-01 3.33E-01 3.33E-01 3.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03 6.10E-04	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05 8.91E-06	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05 7.04E-05	(g/s) 3.68E-07 8.10E-08 3.67E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.03E-03 3.33E-01 3.33E-01 3.33E-01 3.33E-01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes no yes yes no yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bls (2-ethylhexyl)phthalate Cadmlum Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene Nickel Pentane	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03 6.10E-04 2.10E-03 2.60E+00	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND ND NA 1.61E-05 2.05E-06 1.23E-06 1.24E-05 NA 1.75E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 8.91E-06 3.07E-05 3.80E-02	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 ND ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 7.04E-05 3.90E-05 1.34E-04 1.66E-05	(g/s) 3.68E-07 8.10E-08 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 2.02E-06 1.12E-06 3.87E-06 4.79E-03	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 3.70E-06 3.30E-02 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.00E-03 3.33E-01 3.33E+00 2.70E-05 1.18E+02	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes no yes yes no yes yes no
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene Nickel Pentane Phenol	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 1.10E-03 6.10E-04 2.10E-03 2.60E+00 NA	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-06 1.24E-05 NA 1.75E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05 8.91E-06 3.07E-05 3.80E-02 NA	(ton/yr) 1.28E-05 2.82E-04 1.34E-04 1.34E-04 ND NA 7.04E-05 6.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05 7.04E-05 3.90E-05 1.34E-04 1.66E-01 NA	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06 3.87E-06 4.79E-03 NA	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-08 3.30E-02 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.33E-01 3.33E+00 2.70E-05 1.18E+02 1.27E+00 1.30E-02	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes no yes yes no yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene Nickel Pentane Phenol Selenium	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.60E-04 1.10E-03 6.10E-04 2.10E-03 2.60E+00 NA <2.4E-5	(Ib/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-02 5.55E-06 3.80E-06 1.61E-05 8.91E-08 3.07E-05 3.80E-02 NA ND	(ton/yr)  1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.47E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.66E-05 7.04E-05 3.90E-05 1.34E-04 1.66E-01 NA ND	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 2.21E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06 3.87E-08 NA ND	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.33E-01 3.33E-01 3.33E-01 3.33E+00 2.70E-05 1.18E+02 1.27E+00 1.30E-02 2.50E+01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes yes no yes yes yes yes yes yes yes yes no yes yes yes yes yes yes yes yes yes yes
Arsenic Barium Benzene Beryllium Benzo(a)pyrene Bis (2-ethylhexyl)phthalate Cadmium Chromlum Cobalt Copper Dibutylphthalate Dichlorobenzene Ethylbenzene Fluorene Formaldehyde Hexane Manganese Mercury Molybdenum Napthalene Nickel Pentane Phenol Selenium Toluene	2.00E-04 4.40E-03 2.10E-03 <1.2E-5 <1.2E-6 NA 1.10E-03 8.40E-05 8.50E-04 NA 1.20E-03 NA 2.80E-06 7.50E-02 1.80E+00 3.80E-04 2.10E-03 6.10E-04 2.10E-03 2.60E+00 NA <2.4E-5 3.40E-03	(lb/hr) 2.92E-06 6.43E-05 3.07E-05 ND NA 1.61E-05 2.05E-05 1.23E-06 1.24E-05 NA 4.09E-08 1.10E-03 2.63E-06 1.61E-05 8.91E-06 3.07E-05 NA ND 4.97E-05	(ton/yr)  1.28E-05 2.82E-04 1.34E-04 ND NA 7.04E-05 8.96E-05 5.37E-06 5.44E-05 NA 1.79E-07 4.80E-03 1.15E-01 2.43E-05 1.34E-04 1.66E-05 7.04E-05 3.90E-05 1.34E-04 1.66E-01 NA	(g/s) 3.68E-07 8.10E-06 3.87E-06 ND NA 2.02E-06 2.58E-06 1.55E-07 1.56E-06 NA 5.15E-09 1.38E-04 3.31E-03 6.99E-07 4.79E-07 2.02E-06 1.12E-06 3.87E-06 4.79E-03 NA ND 6.26E-06	1.50E-06 0.033 8.00E-04 2.80E-05 2.00E-06 2.80E-02 3.70E-06 3.30E-03 3.33E-01 6.70E-02 2.00E+01 1.33E-01 5.10E-04 1.20E+01 3.33E-01 3.33E-01 3.33E-01 3.33E-01 3.33E+00 2.70E-05 1.18E+02 1.27E+00 1.30E-02 2.50E+01	Required?*  yes  no  no  no  no  no  no  no  no  no  n	no yes yes yes no yes yes yes yes yes yes yes yes no yes yes yes yes yes yes yes yes yes yes

- Notes:

  (a) IDAPA 58.01.01.210.05(b)

  (b) IDAPA 58.01.01.676

  (c) IDAPA 58.01.01.006.90

  (d) IDAPA 58.01.01.221.01

  (e) Emission Factors for natural gas combustion are from AP-42 Chapter 1.4 "Natural Gas Combustion". For NOX and CO emission estimates, emission factors for an uncontrolled small boiler was selected.

  (f) IDAPA 58.01.01.585 and 586

Combustion Source Characteristics	
Combustion Unit ID	Primary Hot Oil Heater
Manufacturer	CEI Enterprises
Model	CEI-5000G
Input Heat Capacity (BTU/hr)	7,300,000
Stack Height (ft)	10.08
Stack Height (m)	3.07
Stack Dlameter (ft)	1.33
Stack Dlameter (m)	0.407
Exit Gas Temperature (°F)	600
Exit Gas Temperature (K)	588,71
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	Natural Gas
Heating Value (BTU/scf)	1,020
Product Consumption (scf/hr)	7,157
Wet Standard Stack Flow Rate (wscf/min)	1,291
Dry Standard Stack Flow Rate (dscf/min)	1,060
DSCF Corrected for 3% O2 and Altitude (dscf/min)	1,457
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	3,275
Stack Velocity (m/s)	11.91
Actual Hours of Operation (hr/yr)	8,760

	, 00.00						
Criteria Pollutants					Significant	Below	Significant
		Emissions	Emissions	Emissions	Level c	Regulatory	Contribution?
	EF <sup>e</sup> (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?d	Ç
PM-10 (assume = PM)	7.6	5.44E-02	2.38E-01	6.85E-03	15	yes	no
SO2	0.6	4.29E-03	1.88E-02			yes	no
NOx	100	7.16E-01	3.13E+00	9.02E-02	40	yes	no
co	84	6,01E-01	2.63E+00	7,57E-02	100	yes	no
voc	5.5	3.94E-02				yes	no
Lead	0.0005	3.58E-06	1.57E-05	4.51E-07	0.6	yes	no
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold		Emissions	Emissions	Emissions	Level °	Regulatory	Contribution?
	EF® (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?	С
РМ	7.6	5.44E-02	2.38E-01	6.85E-03	25	yes	no
Beryllium	<1.2E-5	ND	ND	ND	0.0004	yes	no
Mercury	2.60E-04	1.86E-06	8.15E-06	2.34E-07	0.1	yes	no
PM Grain Loading Standard		Grain Load	PM Grain		1		
	PM Emissions	(gr/dscf	Standard b	Meets			
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
Natural Gas	6.34	0.004	0.015	yes			
Other Pollutants		Emissions	Emissions	Emissions	1		

(lb/hr)

EF® (lb/10<sup>6</sup> scf)

(g/s)

2.90E+01

6.67E-01

no

no

yes

ýes

NA

2.62E-05

(ton/yr)

	EF° (lb/10° scf)	(lb/hr)	(ton/yr)	(g/s)				
TOC	11	1 7.87E-02	3.45E-01	9.92E-03				
HCI	NA	NA	NA	NA				
Methane	2.3	3 1.65E-02	7.21E-02	2.07E-03				
CO₂	120,000	859	3,762	108				
N₂O	2.2	2 1.57E-02	6.90E-02	1.98E-03				
Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling		1
	EF® (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	ELf (lb/hr)	Required?*	BRC?	ı
Arsenic	2.00E-04	1.43E-06	6.27E-06	1.80E-07	1.50E-06	no	no	1
Barium	4.40E-03	3.15E-05	1.38E-04	3.97E-06	0.033	no	yes	L
Benzene	2.10E-03	3 1.50E-05	6.58E-05	1.89E-06	8.00E-04	no	yes	ı
Berylllum	<1.2E-5	5 ND	ND	ND	2.80E-05	no	yes	L
Benzo(a)pyrene	<1.2E-6	S ND	ND	ND	2.00E-06	no	yes	ı
Bis (2-ethylhexyl)phthalate	NA NA	NA	NA	NA	2.80E-02	no	yes	ı
Cadmlum	1.10E-03	3 7.87E-06	3.45E-05	9,92E-07	3.70E-06	yes	no	ı
Chromium	1,40E-03	3 1.00E-05	4.39E-05	1.26E-06	3.30E-02	no	yes	ı
Cobalt	8.40E-05	6.01E-07	2.63E-06	7.57E-08	3.30E-03	no	yes	l
Copper	8,50E-04	6.08E-06	2.66E-05	7.67E-07	3.33E-01	no	yes	ı
Dibutylphthalate	NA NA	NA	NA	NA	6.70E-02	no	yes	ı
Dichlorobenzene	1,20E-03	8.59E-06	3.76E-05	1.08E-06	2.00E+01	no	yes	ı
Ethylbenzene	NA NA	NA	NA	NA	2.90E+01	no	yes	ı
Fluorene	2.80E-06	2.00E-08	8.78E-08	2.52E-09	1.33E-01	no	yes	ı
Formaldehyde	7.50E-02	5.37E-04	2.35E-03	6.76E-05	5.10E-04	yes	no	l
Hexane	1,80E+00	1.29E-02	5.64E-02	1.62E-03	1.20E+01	no	yes	l
Manganese	3.80E-04	2.72E-06	1.19E-05	3.43E-07	3.33E-01	no	yes	
Mercury	2.60E-04	1.86E-06	8.15E-06	2.34E-07	3.00E-03	no	yes	ı
Molybdenum	1.10E-03	7.87E-06	3.45E-05	9.92E-07	3.33E-01	по	yes	ı
Napthalene	6.10E-04	4.37E-06	1.91E-05	5.50E-07	3.33E+00	no	yes	ı
Nickel	2.10E-03	1.50E-05	6,58E-05	1,89E-06	2.70E-05	no	no	ı
Pentane	2.60E+00	1.86E-02	8.15E-02	2.34E-03	1.18E+02	no	yes	ı
Phenol	NA	NA	NA	NA	1.27E+00	no	yes	ı
Selenlum	<2.4E-5	ND	ND	ND	1.30E-02	no	yes	ı
Toluene	3.40E-03	2.43E-05	1.07E-04	3.07E-06	2.50E+01	no	yes	ı
Vanadlum	2.30E-03	1.65E-05	7.21E-05	2.07E-06	3.00E-03	no	yes	

NA

2.08E-04

NA

9.09E-04

## Zinc

o-Xylene

- (a) IDAPA 58.01.01.210.05(b)
- (b) IDAPA 58.01.01.676 (c) IDAPA 58.01.01.006.90
- (d) IDAPA 58.01.01.221.01
- (e) Emission Factors for natural gas combustion are from AP-42 Chapter 1.4 "Natural Gas Combustion". For NOX and CO emission estimates, emission factors for an uncontrolled small boiler was selected.

  (f) IDAPA 58.01.01.585 and 586

NA

Combustion Source Characteristics	
Combustion Unit ID	Secondary Hot Oil Heater
Manufacturer	CEI Enterprises
Model	CEI-3000
Input Heat Capacity (BTU/hr)	4,230,000
Stack Height (ft)	14.67
Stack Height (m)	4.47
Stack Diameter (ft)	1.00
Stack Diameter (m)	0.305
Exit Gas Temperature (°F)	520
Exlt Gas Temperature (K)	544.26
Standard Condition Temperature (K)	273.15
Blackfoot Barometric Pressure (mm Hg)	645.57
Standard Condition Barometric Pressure (mm Hg)	760.00

Fuel Specific Characteristics	Natural Gas
Heating Value (BTU/scf)	1,020
Product Consumption (scf/hr)	4147
Wet Standard Stack Flow Rate (wscf/min)	748
Dry Standard Stack Flow Rate (dscf/mln)	614
DSCF Corrected for 3% O <sub>2</sub> and Altitude (dscf/mln)	844
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061
Wet Actual Stack Flow Rate (wacf/min)	1,755
Stack Velocity (m/s)	11.34
Actual Hours of Operation (hr/yr)	8760

no

no

no

yes

yes

yes

yes

Exit Gas Temperature (K)	544.26		Actual Hours		(hr/vr)		8760
Standard Condition Temperature (K)	273.15	'			, ,		
Blackfoot Barometric Pressure (mm Hg)	645.57						
Standard Condition Barometric Pressure (mm Hg)	760.00						
Criteria Pollutants	T	<u> </u>			Significant	Below	Significant
Origina Pollutarita		Emissions	Emissions	Emissions	Level <sup>c</sup>	Regulatory	•
	EF* (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern?	6
PM-10 (assume = PM)	7.6		1.38E-01	3.97E-03	15	yes	no
SO2	0.6	2.49E-03	1.09E-02	3.14E-04		yes	no
NOx	100	4.15E-01	1.82E+00	5.23E-02	40	yes	no
co	84	3.48E-01	1.53E+00	CONTRACTOR AND AND AND AND AND AND AND AND AND AND	100	ves	no
voc	5.5	2.28E-02	9.99E-02	2.87E-03	40	yes	no
Lead	0.0005	2.07E-06	9.08E-08	2.61E-07	0.6	yes	no
	0.0000	2.07 2.00	0.002-00	2.011.07			
Non-Criteria Pollutants with Significant					Significant	Below	Significant
Threshold		Emissions	Emissions	Emissions	Level c	Regulatory	Contribution?
	EF® (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	(ton/yr)	Concern? <sup>d</sup>	
PM	7.6	3.15E-02	1.38E-01	3.97E-03	25	yes	no
Beryllium	<1.2E-5			ND	0.0004	yes	no
Mercury	2.60E-04	1.08E-06	4,72E-06	1.36E-07	0.1	yes	no
PM Grain Loading Standard		Grain Load	PM Grain				
	PM Emissions	(gr/dscf	Standard b	Meets	l		
	(gr/min)	@3% O2)	(gr/dscf)	Standard?			
Natural Gas	3.68	0.004	0.015	yes			
Other Pollutants	1	Emissions	Emissions	Emissions	i		
otiloi i ollutuitto	EF° (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)			
TOC	11	4.56E-02	2.00E-01	5,75E-03			
HCI	NA ''	4.50L-02	NA	NA			
Methane	2.3	9.54E-03	4.18E-02	1.20E-03			
CO <sub>2</sub>	120,000	498	2,180	63			
			-		•		
N₂O	2.2	9.12E-03	4.00E-02	1.15E-03			
Toxic Air Pollutants		Emissions	Emissions	Emissions		Modeling	
	EF® (lb/10 <sup>6</sup> scf)	(lb/hr)	(ton/yr)	(g/s)	EL (lb/hr)	Required?	BRC?
Arsenic	2.00E-04	8.29E-07	3.63E-06	1.05E-07	1.50E-06	no	no
Barium	4.40E-03	1.82E-05	7.99E-05	2.30E-06	0.033	no	yes
Benzene	2.10E-03	8.71E-06	3.81E-05	1.10E-06	8.00E-04	no	yes
Beryllium	<1.2E-5	ND	ND	ND	2.80E-05	no	yes
Benzo(a)pyrene	<1.2E-6	ND	ND	ND	2.00E-06	no	yes
Bis (2-ethylhexyl)phthalate	NA	NA	NA	NA	2.80E-02	no	yes
Cadmlum	1.10E-03	4.56E-06	2.00E-05		3.70E-06	yes	no
Chromlum	1.40E-03	5.81E-06	2.54E-05	7.32E-07	3.30E-02	no	yes
Cobalt	8.40E-05	3.48E-07	1.53E-06	4.39E-08		no	yes
Copper	8.50E-04	3.53E-06	1.54E-05	4.44E-07	3.33₹-01	no	yes
Dibutylphthalate	NA	NA	NA	NA	6.70E-02	no	yes
Dichlorobenzene	1.20E-03	4.98E-06	2.18E-05	6.27E-07	2.00E+01	no	yes
Ethylbenzene	NA	NA	NA	NA	2.90E+01	no	yes
Fluorene	2.80E-06	1.16E-08	5.09E-08	1.46E-09	1.33E-01	no	yes
Formaldehyde	7.50E-02	3.11E-04	1.36E-03		5.10E-04	no	no
Hexane	1.80E+00	7.46E-03	3.27E-02	9.41E-04	1.20E+01	no	yes
Manganese	3.80E-04	1.58E-06	6.90E-06	1,99E-07	3.33E-01	no	yes
Mercury	2.60E-04	1.08E-06	4.72E-06	1.36E-07	3.00E-03	no	yes
Molybdenum	1.10E-03	4.56E-06	2.00E-05	5.75E-07	3.33E-01	no	yes
Napthalene	6.10E-04	2.53E-06	1.11E-05	3.19E-07	3.33E+00	no	yes
Nickel	2.10E-03	8.71E-06	3.81E-05		2.70E-05	no	no
Pentane	2.60E+00	1.08E-02	4.72E-02	1.36E-03	1.18E+02	no	yes
Phenol	NA	NA	NA	NA	1.27E+00	no	yes
Selenium Toluene	<2.4E-5	ND	ND	ND	1.30E-02	no	yes
	3 40 = 03	1.415-05	6 18E-05		2.50E±04	00	voc

#### Zinc Notes:

Toluene

Vanadium

o-Xylene

- (a) IDAPA 58.01.01.210.05(b) (b) IDAPA 58.01.01.676
- (c) IDAPA 58.01.01.006.90
- (d) IDAPA 58.01.01.221.01
- (e) Emission Factors for natural gas combustion are from AP-42 Chapter 1.4 "Natural Gas Combustion". For NOX and CO emission estimates, emission factors for an uncontrolled small boiler was selected.

3.40E-03

2.30E-03

NA 2.90E-02

(f) IDAPA 58.01.01.585 and 586

1.41E-05

9.54E-06

1.20E-04

NA

6.18E-05

4.18E-05

5.27E-04

NA

1.78E-06

1,20E-06

1.52E-05

NA

2.50E+01

3.00E-03 2.90E+01 6.67E-01

## APPENDIX B STORAGE TANK EMISSIONS

